EPA

U.S. Environmental Protection Agency

Contract No. 68-W4-0007

RCRA Enforcement, Permitting, and Assistance Contract–EPA Zone II

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PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

ENVIROPUR WASTE REFINING AND TECHNOLOGY, INC. (FORMERLY MOTOR OILS REFINING COMPANY) McCOOK, ILLINOIS ILD 000 646 786

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Enviropur Waste Refining and Technology, Inc. (Enviropur), formerly Motor Oils Refining Company (Moreco) facility in McCook, Cook County, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The Enviropur facility operates as a rerefinery and treatment facility of nonhazardous wastes. The facility processes about 20 million gallons of waste annually. The facility receives the following nonhazardous waste streams from off-site sources: used oil, waste glycol, oily wastewater, and leaking underground storage tank (LUST) waters. All wastes are received by tank truck or railcar and are accompanied by an Illinois nonhazardous waste manifest. Nonhazardous waste streams, generated on site, include the following: wastewater, waste clay, spent mineral spirits, and contaminated soil. The facility has operated at its current location since 1942 and was originally called Moreco. Herb Goetsch owned the property until the early 1970s, when Esmark Beatrice Corporation purchased it. In 1983, a group of eight private investors purchased the property. In 1992, the facility changed its name to Enviropur and is currently owned by Enviropur Waste Refining and Technology, Incorporated of Chicago, Illinois. The facility occupies 6.2 acres in an industrial area and employs about 35 people.

In 1989, Illinois Environmental Protection Agency (IEPA) inspected Enviropur and identified the facility as a hazardous waste treatment, storage, and disposal (TSD) facility because it believed that one shipment of hazardous waste was accepted. The PA and VSI revealed no information to support this allegation. In 1993, IEPA inspected the facility and identified it as a nonhandler of hazardous waste. In 1994, IEPA's Enforcement Decision Group deferred resolution of violations found during the 1989 inspection until the facility complies with a modified consent order issued in January 1993. The facility still remains on IEPA's list of TSD facilities and is remediating groundwater and on-site soil contamination under the modified consent order.

The PA/VSI identified the following 19 SWMUs and 2 AOCs at the facility:

Solid Waste Management Units

1. Southeast Tank Farm
2. Atmospheric Distillation Unit (ADU)
3. Dehydrators
4. Oil Distillate Holding Tanks
5. Filter House
6. Blend Building
7. Blend Building Polishing Filter
8. Waste Glycol Storage Tank
9. Vacuum Distillation Unit (VDU) 1
10. Water-Glycol Mixture Holding Tank
11. Glycol Holding Tank
12. Oily Wastewater Holding Tanks
13. VDU 2
14. VDU 3
15. VDU 4
16. Wastewater Treatment Plant (WWTP)
17. Railcar Unloading Area
18. Contaminated Soil Pile
19. LUST Water Holding Tanks

Areas of Concern

1. Contaminated Soil and Groundwater
2. Former Gasoline Underground Storage Tank (UST)

Groundwater and soil contamination have been documented on site from 5 decades of rerefining operations. The contamination has been attributed to oil spillage and leakage from unloading, storing, processing, and loading of oil from tank trucks, railcars, and storage tanks. Analysis of groundwater samples from alluvial monitoring wells revealed levels of benzene, lead, and phenols that exceeded Class I groundwater standards. The concentration of contaminants exceeding the standards were as follows: benzene ranged from 10 to 110 micrograms per liter (μg/L), lead ranged from 17 to 200 μg/L, and the phenol concentration was 930 μg/L. Additional contaminants detected in the alluvial and bedrock monitoring wells, which were in concentrations below Class I groundwater standards include: tetrachloroethane, methylene chloride, several semivolatiles, and 2-methylnaphthalene. The semivolatiles include bis(2-ethylhexyl)phthalate, 1,2-dichlorobenzene, 1,4-dichlorobenzene, diethylphthalate, fluorene, naphthalene, and phenanthrene. Methylene chloride was also detected in the laboratory blanks. Because some volatile organic compounds (VOC) were detected by Enviropur's analytical laboratory and were not detected by IEPA's contract laboratory, the bedrock

wells will be sampled during two additional sampling events to provide data to further evaluate groundwater in the bedrock.

Samples were collected from the oil layer that existed on the groundwater in one well. Sample analysis revealed the presence of polychlorinated biphenyl (PCB) Aroclor-1260, volatile, semivolatile, and inorganic priority pollutants including arsenic, barium, beryllium, copper, and zinc. Volatiles include benzene, chlorobenzene, chloroethane, 1,1-dichloroethane, ethylbenzene, methylene chloride, and toluene. Semivolatiles include acenaphthene, bis(2-ethylhexyl)phthalate, fluorene, naphthalene, and phenanthrene. Oil samples from another well did not reveal the presence of any organic priority pollutants, but did contain relatively high concentrations of inorganic priority pollutants.

Three soil samples were analyzed for VOC and polynuclear aromatic hydrocarbon (PNA) contamination. The samples were collected from locations near the tanks where most spillage has occurred over the years; this includes the Southeast Tank Farm (SWMU 1), the Oil Distillate Holding Tanks (SWMU 4), the Railcar Unloading Area (SWMU 17), and the LUST Water Holding Tanks (SWMU 19). All on-site contamination is designated as Contaminated Soil and Groundwater (AOC 1). The concentration of total PNAs detected in the three samples ranged from 16,710 to 21,470 microgram per kilogram (μg/kg) (parts per billion [ppb]) with the average concentration being 18,413 ppb. VOCs detected include tetrachloroethene, ethylbenzene, toluene, and xylenes. Ethylbenzene, toluene, and xylenes were below the LUST program cleanup objectives. The concentrations of tetrachloroethene ranged from 30 to 54 ppb.

A documented release to soil has also been attributed to the Former Gasoline UST (AOC 2). In 1991, Moreco removed a 1,200 gallon UST and discovered soil contamination. The contamination was reported to the Illinois Emergency Services and Disaster Agency (Incident No. 911423). No further information was available in the files regarding the extent of contamination or remediation.

Documented releases to surface water from Enviropur include two incidents where IEPA inspectors found oil-like substances both on and off of the facility property in 1983. IEPA issued a Notice of Discharge without a National Pollutant Discharge Elimination System (NPDES) permit after the first inspection. These releases were also in the area of the Southeast Tank Farm (SWMU 1), the Oil

Distillate Holding Tanks (SWMU 4), the Railcar Unloading Area (SWMU 17), and the LUST Water Holding Tanks (SWMU 19).

A documented release to air has been attributed to Enviropur in 1990, but not to a specific SWMU.

Contamination of off-site soils west of the facility has been attributed to Enviropur. In February 1992, a subsurface investigation was conducted in this area as part of a property assessment. Contamination by refined petrochemicals was detected to a depth of 10 feet and was assumed to extend deeper than 10 feet. Hydrocarbons in the soil were assessed using a photoionization detector (PID). PID readings ranged from 0 to greater than 1,000 parts per million (ppm) hydrocarbons.

Under a modified consent order entered in January 1993, between Enviropur and the Attorney General of the State of Illinois, Enviropur is required to complete remedial actions in 10 phases within 4.5 years. Generally, required remedial actions include installing two lift stations to manage surface water, collecting and analyzing soil and groundwater samples, removing and replacing various tanks, bioremediating soils in various locations within the facility, and constructing curbed containment structures. The order also requires installing monitoring wells, extraction wells, and a French drain system. If Enviropur has not completely met IEPA cleanup objectives within 4.5 years after the Phase 3 start date, subject to extensions, Enviropur shall conduct a remedial investigation and feasibility study (RI/FS) and shall perform additional remediation as described in the modified consent order.

On November 2, 1993, Enviropur submitted a remediation plan titled: "Evaluation of Bioremediation to Remediate Oil Impacted Soils," to IEPA. The study showed that bioremediation was successful with the majority, but not all, of the contaminants to be remediated below IEPA cleanup objectives. On November 18, 1993, IEPA informed the facility that bioremediation is not a feasible technology for remediating soils at the Enviropur facility. IEPA requested that an alternative soil remediation plan be submitted within 3 months of the November 18, 1993 letter. Currently, Enviropur is storing approximately 1,000 cubic yards of soil that was excavated from an area where a proposed secondary containment dike area will be constructed. Excavated soil from Contaminated Soil and Groundwater (AOC 1) will be stockpiled in the Contaminated Soil Pile (SWMU 18) until a treatment technology has been determined.

During September 1994, Enviropur accepted and processed two shipments of oily wastewater that contained PCBs. Argonne National Laboratory (Argonne) improperly manifested the 1,490 gallons of "nonhazardous oil/water" and Illinois Recovery Systems (IRS) transported this waste to Enviropur. IRS also generated and improperly manifested 7,200 gallons of "nonhazardous oil/water" that was transported to Enviropur by Stanton Industries. After these wastes were processed, Enviropur's laboratory reported that the waste from Argonne and IRS contained a PCB concentration of 481.195 ppm and 178.4 ppm, respectively. No documentation was available regarding IEPA's response to Enviropur's acceptance of improperly manifested PCB waste. SWMUs that manage oily wastewater include SWMUs 12, 14, 15, and 16.

On November 2, 1994, Enviropur submitted a Manifest Discrepancy Report to EPA for 5,600 gallons of "water soluble oil" that contained a PCB concentration of 756 ppm. LaSalle Rolling Mills, Incorporated (LRM) generated the waste and North Branch Environmental transported it to Enviropur. Enviropur mixed the waste with other oily wastewater in tank 325 of the Oily Wastewater Holding Tank (SWMU 12), bringing the total quantity of PCB-containing waste to 20,200 gallons. No documentation was available regarding IEPA's response to Enviropur's acceptance of improperly manifested PCB waste.

The potential for release from SWMUs 2, 3, and 18 to all environmental media is moderate. SWMUs 2 and 3 do not have adequate secondary containment or overfill alarms. The Contaminated Soil Pile (SWMU 18) holds 1,000 cubic yards (yd^3) of contaminated soil that was removed during remedial activities. The soil is uncovered and did not appear to be located on an earthen clay berm as IEPA requires under the modified consent order.

The potential for release from the Filter House (SWMU 5) to all environmental media, except surface water, is high. PRC observed oil-stained gravel under and around SWMU 5. Waste clay managed in the roll-off box for the unit was uncovered and subject to weathering.

The potential for release from SWMUs 6 through 16 to all environmental media is low. These SWMUs were observed to be in good condition and had adequate secondary containment with no cracks in the concrete.

The Enviropur facility occupies 6.2 acres in a mixed residential and industrial area. The nearest residential area is located behind the bowling alley about 0.1 mile north of the facility in Lyons, Illinois. Access to the facility is limited by fencing on the north, east, and west sides of the facility. Access from the south is limited by the Des Plaines River and railroad tracks. No roads are present on the south side.

The nearest surface water body, the Des Plaines River, borders the facility on the east. It is used for recreational purposes. Other surface water bodies in the area include several fishing lakes within Chicago Portage Woods and Ottawa Trail Woods South parks, which are properties included in the Forest Preserve District of Cook County.

Groundwater is not used as a water supply in McCook or the neighboring Village of Lyons. The nearest drinking water well is located 0.5 mile northeast of the facility in the Ottawa Trail Woods South forest preserve. This well is located upgradient of the facility and is on the east side of the Des Plaines River. The nearest downgradient well, which extends down to bedrock, is located less than 0.5 mile south of the facility.

Sensitive environments are not located on site. The nearest sensitive environment, the Des Plaines River, is adjacent to the facility's eastern border. The Des Plaines River is classified as a permanently flooded, lower perennial, open water, riverain system. Chicago Portage Woods is on the eastern bank of the Des Plaines River. Several forested and aquatic bed palustrine systems exist in this area. The nearest is 0.25 mile east of the facility. Neither federally endangered nor threatened species occur within a 2 mile radius of the facility.

PRC recommends that remediation of AOC 1 and areas near SWMUS 1, 4, 17, and 19 at Enviropur continue according to the modified consent order. PRC recommends that the facility be required to have adequate secondary containment and overfill alarms on tanks in ADU (SWMU 2) and the Dehydrators (SWMU 3). PRC also recommends that soil samples be collected around SWMUs 2 and 3. PRC also recommends soil sampling of the area under the Filter House (SWMU 5). The roll-off box in SWMU 5 should be covered when managing waste clay. PRC recommends that the Oily Wastewater Holding Tanks (SWMU12), VDU 3 (SWMU 14), and VDU 4 (SWMU 15) be decontaminated to remove PCB contamination. PRC recommends that the condition of the concrete

pits of the Railcar Unloading Area (SWMU 17) be assessed and that soil samples be collected from this SWMU to determine the nature and extent of observed soil contamination.. PRC recommends that the facility be required to cover the Contaminated Soil Pile (SWMU 18) and maintain it on a confining material to prevent runoff and release to the air. PRC recommends that soil samples be collected in the Former Gasoline UST (AOC 2) to determine the nature and extent of gasoline contamination.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05001 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W4-0007 to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release of hazardous waste or constituents to the environment has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Enviropur Waste Refining and Technology, Inc. (Enviropur), facility (EPA Identification No. ILD 000 646 786) in McCook, Cook County, Illinois.

The PA was completed on July 13, 1994. PRC gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from EPA Region 5 RCRA files. Additional information was obtained from the U.S. Department of the Interior (DOI), the U.S. Geological Survey (USGS), the U.S. Department of Agriculture (USDA), the U.S. Department of Commerce (DOC), and the Federal Emergency Management Agency (FEMA). The VSI was conducted on July 14, 1994 and September 2, 1994. It included interviews with facility representatives and a walk-through inspection of the facility. PRC identified 19 SWMUs and two AOCs at the facility.

The VSI is summarized and 23 inspection photographs are included in Appendix A. The photographs have been renumbered; thus, their numbers differ from the photograph numbers in the VSI field notes, which are included in Appendix B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

2.1 FACILITY LOCATION

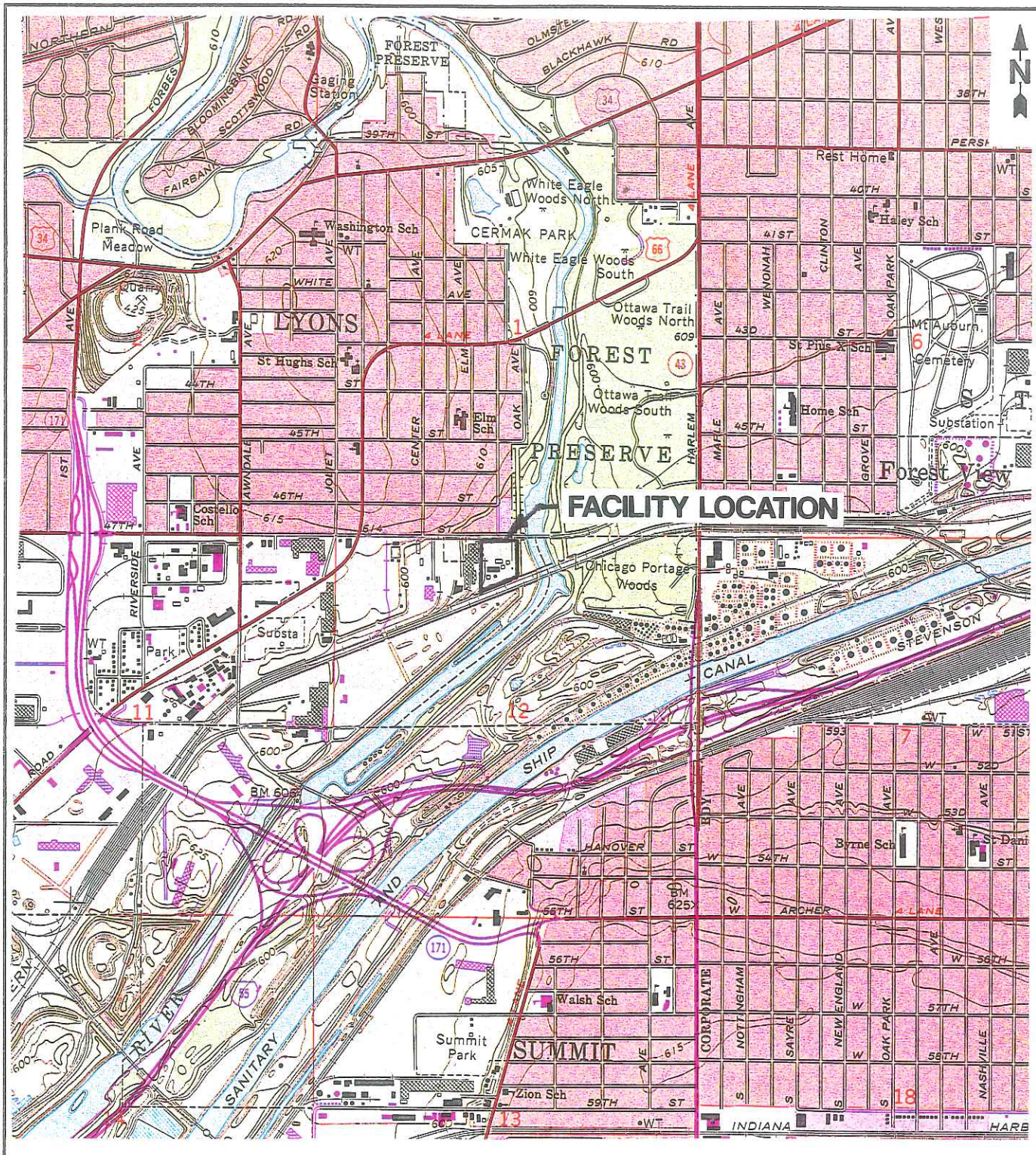
The Enviropur facility is located at 7601 West 47th Street (latitude 41°45'13"N and longitude 87°52'40"W) in McCook, Cook County, Illinois (Moreco 1982). The Enviropur facility occupies 6.2 acres in a mixed residential and industrial area. The location of the Enviropur facility is shown in Figure 1. The facility is bordered on the north by a bowling alley, on the west by Denton Trucking, and on the south and east by the Des Plaines River.

2.2 FACILITY OPERATIONS

The facility began operations in 1942 as Motor Oils Refining Company (Moreco). Herb Goetsch owned the property until the early 1970s, when Esmark Beatrice Corporation purchased it. In 1983, a group of eight private investigators purchased the property. In 1992, the facility changed its name to Enviropur and is currently owned by Enviropur Waste Refining and Technology, Incorporated of Chicago, Illinois.

Enviropur operates as a rerefinery and treatment facility for nonhazardous wastes. The facility processes about 20 million gallons of waste annually. In 1989, IEPA inspected Enviropur and identified the facility as a hazardous waste treatment, storage, and disposal (TSD) facility because it was believed that one shipment of hazardous waste was accepted by Enviropur. No information to support this allegation was found by PRC during the PA/VSI. Section 2.5 discusses recent inspections by IEPA at which time the facility was classified as a nonhandler of hazardous waste.

The facility is permitted to receive nonhazardous used oil, waste glycol, oily wastewater, and leaking underground storage tank (LUST) waters from off-site sources in bulk by tank truck or railcar when accompanied by an Illinois nonhazardous waste manifest. The facility's permit requires that a



SCALE 1:24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

SCALE: 1" = 2,000'

ILLINOIS

QUADRANGLE LOCATION

ENVIROPUR WASTE REFINING AND TECHNOLOGY, INC.
McCOOK, ILLINOIS

FIGURE 1
FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

SOURCE: MODIFIED FROM USGS, BERWYN, ILLINOIS, QUADRANGLE, 1980

preshipment sample of each waste stream be analyzed for flashpoint, bottom sediment, water content, pH, total halogens, polychlorinated biphenyls (PCB), total metals, total sulfur, viscosity, and viscosity index before being delivered to the facility to determine under which generic permit the waste may be accepted. When the waste arrives at the facility, a representative sample is taken from each load of preapproved waste and tested for flashpoint, pH, PCBs, total halogen, total sulfur, and total metals (IEPA 1994c). Toxicity characteristic leaching procedure (TCLP) analysis is also routinely conducted on waste glycols. TCLP analysis is performed on used oil if the water content is 50 percent or greater. If the test results meet the predetermined criteria specified in the facility's state operating permit, then the load is accepted for treatment.

Primary processes include rerefining used oils, recycling of waste glycols and oily wastewater, and treating wastewaters generated from LUST sites. The oil rerefining process has remained essentially the same throughout the facility's operational history. The glycol recycling and oily wastewater refining processes began within the past 7 years.

The used oil rerefining process consists of the following steps: unloading, performing atmospheric distillation, performing vacuum distillation, filtering, and blending the used oil into a finished product. Used oil transported in tank trucks is pumped into tanks 122 through 133 of the Southeast Tank Farm (SWMU 1). Used oil transported in railcars is pumped into two concrete pits in the Railcar Unloading Area (SWMU 17). Used oil is then pumped into tanks T-1 and T-2, the Atmospheric Distillation Unit (ADU [SWMU 2]), where hydrocarbons with a boiling point below 450 °F are evaporated, condensed, and sent to tanks 120, 121, 143, 144, and 145 of SWMU 1 for storage as high flashpoint base oil. In the past, an oil and water mixture was pumped from SWMU 2 to the Dehydrators (SWMU 3). The water removed from SWMU 3 was pumped to the Wastewater Treatment Plant (WWTP [SWMU 16]). The oil remaining after dehydration was pumped to tank T-5, the Vacuum Distillation Unit (VDU) 1 (SWMU 9) where hydrocarbons with a boiling point below 1050 °F were removed. Currently, when water evaporates in SWMU 2, it is condensed and transferred to SWMU 16. The oil remaining in SWMU 2 is then sent to SWMU 9 where the evaporated hydrocarbons are condensed and sent to tanks F through N, the Oil Distillate Holding Tanks (SWMU 4). The heavy hydrocarbons remaining in SWMU 9 are pumped to the asphalt product tank and are sold as asphalt extender, a product. Distillates from SWMU 4 are pumped to the Filter House (SWMU 5) where they are filtered through clay media. After filtration, the material

is considered to be base oil and is either sold as a finished product or is sent through the Blend Building Polishing Filter (SWMU 7) and is blended with raw materials to make additional finished products in the Blend Building (SWMU 6). The products are motor oils and lubricants. The facility's permit does not allow finished products to sold as fuels (IEPA 1994c).

The waste glycol recycling process consists of unloading, performing vacuum distillation, and blending. Waste glycol is unloaded into tank 412, the Waste Glycol Storage Tank (SWMU 8). Glycol is then pumped to tank T-3, VDU 2 (SWMU 13) where initially water is evaporated, condensed, and pumped to the WWTP (SWMU 16). The next material to be evaporated is a water and glycol mixture which is condensed and pumped to tank 403, the Water-Glycol Mixture Holding Tank (SWMU 10). While in this tank, the mixture is tested for glycol content. If the mixture contains greater than 250 parts per million (ppm) of glycol, it will be sent back to SWMU 13 for further distillation. If the tank contents contain less than 250 ppm glycol, the mixture is pumped to SWMU 16. The final material to be evaporated in SWMU 13 is glycol, which is condensed and pumped to tank 20, the Glycol Holding Tank (SWMU 11). A small amount of oil remaining in SWMU 13 is then pumped to SWMU 1 to be processed in the oil rerefining process.

The oily wastewater recycling process consists of unloading the oily wastewater and performing vacuum distillation. Oily wastewater is pumped into tanks 324 and 325, the Oily Wastewater Holding Tanks (SWMU 12). The oily wastewater is then pumped to tank T-4, VDU 3 (SWMU 14), where water is evaporated and pumped to the WWTP (SWMU 16). The oil remaining in SWMU 14 is pumped to tank T-6, VDU 4 (SWMU 15) where more water is evaporated, condensed, and again pumped to SWMU 16. The oil remaining in SWMU 15 is finally pumped to the Southeast Tank Farm (SWMU 1) to be processed in the oil rerefining process.

LUST wastewaters are unloaded from tank trucks into tanks 1 through 6, the LUST Water Holding Tanks (SWMU 19). From SWMU 19, the LUST water is sent directly into the WWTP (SWMU 16) for treatment.

The facility operates 7 days per week, with three shifts per day, and employs approximately 35 people. The property is surrounded by a 6-foot-high chain-link fence and security guards are present at the gate 24 hours per day. At least three people are on site during each shift.

2.3 WASTE GENERATION AND MANAGEMENT

This section describes off-site and on-site waste generation and management at the Enviropur facility. Unless otherwise noted, waste generation rates, where available, were provided by facility representatives during the VSI. The Enviropur facility receives nonhazardous waste from off-site sources and generates nonhazardous wastes on site. The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs, is shown in Figure 2. The facility's waste streams are summarized in Table 2.

Enviropur accepts nonhazardous wastes from a variety of off-site sources under a special waste permit (No. 1980-2-OP) that expires on January 29, 1998 (IEPA 1994c). The facility accepts nonhazardous wastes that are delivered in bulk by tank truck or railcar. The facility processes approximately 20 million gallons of waste annually. Wastes received from off-site sources include used oil, waste glycols, oily wastewaters, and LUST waters.

Used oil accepted by the facility includes crank case oil, hydraulic oil, and gear lubricant. The facility has the capacity to process 50,000 gallons of used oil per day.

The facility can recycle between 2,000 and 25,000 gallons of glycol per day, depending on the water content of the waste glycol.

The facility has the capacity to process 15,000 gallons of oily wastewater per day.

LUST waters received by the facility contain 1 to 2 percent hydrocarbons. The facility processes this waste under its water pollution control permit.

Enviropur generates the following nonhazardous wastes on site: wastewater, waste clay, spent mineral spirits, and contaminated soil.

Wastewater is generated during the rerefining and recycling processes and is treated in the on-site WWTP (SWMU 16) under a permit with IEPA. Pretreatment involves a system of neutralization, flocculation, and aeration. The facility is permitted to discharge an average of 78,920 gallons per day

TABLE 1

SOLID WASTE MANAGEMENT UNITS

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit[a]	Status
1	Southeast Tank Farm	No[b]	Active
2	Atmospheric Distillation Unit (ADU)	No[b]	Active
3	Dehydrators	No[b]	Active
4	Oil Distillate Holding Tanks	No[b]	Active
5	Filter House	No[b]	Active
6	Blend Building	No[b]	Active
7	Blend Building Polishing Filter	No[b]	Active
8	Waste Glycol Storage Tank	No[b]	Active
9	Vacuum Distillation Unit (VDU) 1	No[b]	Active
10	Water-Glycol Mixture Holding Tank	No[b]	Active
11	Glycol Holding Tank	No[b]	Active
12	Oily Wastewater Holding Tanks	No[b]	Active
13	VDU 2	No[b]	Active
14	VDU 3	No[b]	Active
15	VDU 4	No[b]	Active
16	Wastewater Treatment Plant (WWTP)	No[b]	Active
17	Railcar Unloading Area	No[b]	Active

TABLE 1 (Continued)

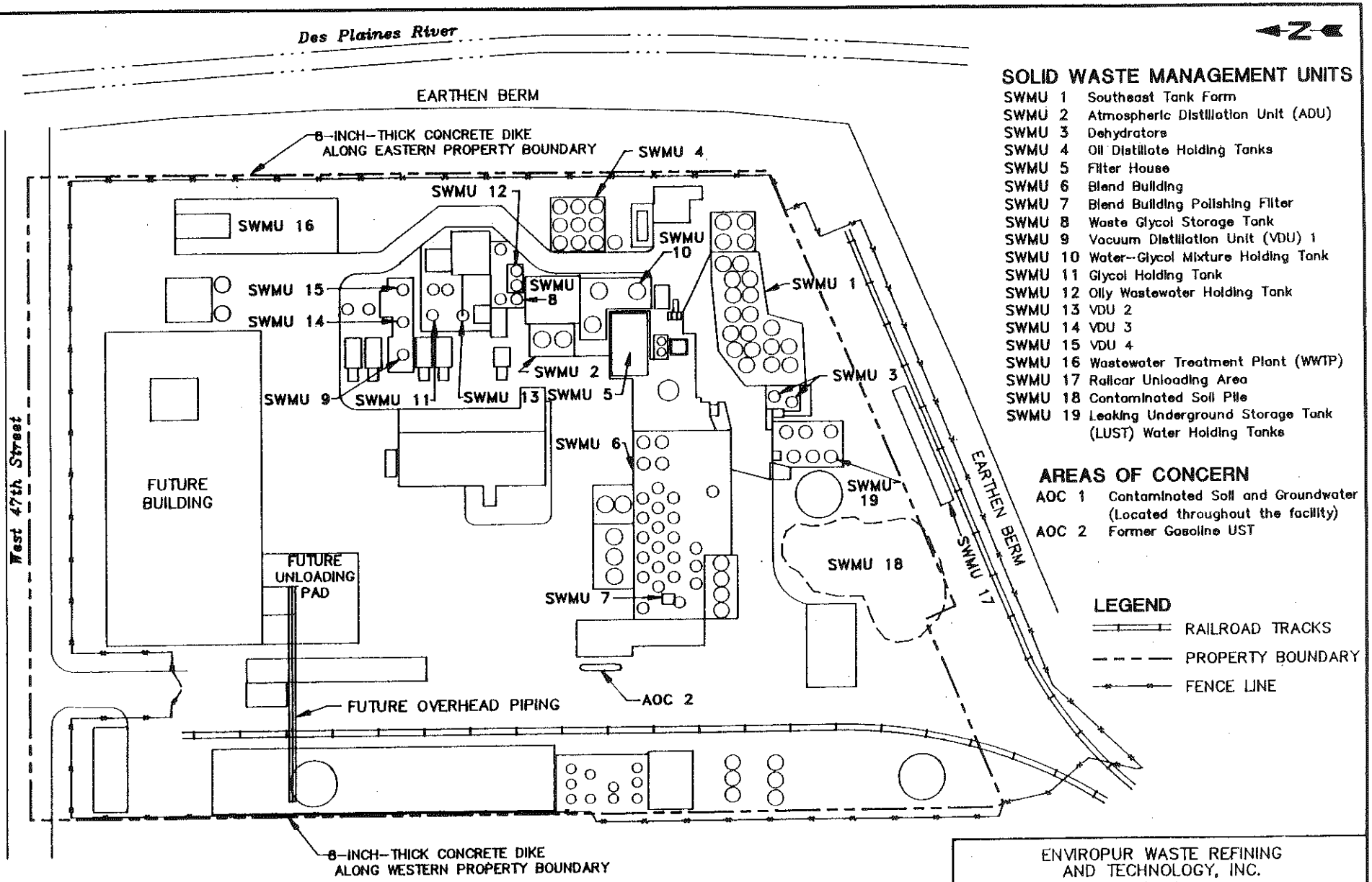
SOLID WASTE MANAGEMENT UNITS

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit[a]	Status
18	Contaminated Soil Pile	No[b]	Active
19	Leaking Underground Storage Tank (LUST) Water Holding Tanks	No[b]	Active

Notes:

a A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

b IEPA identified Enviropur as a treatment, storage, or disposal (TSD) facility because it was believed that one load of hazardous waste was accepted in 1989. The PA and VSI revealed no information to verify this allegation and no specific hazardous waste units were identified.



SOLID WASTE MANAGEMENT UNITS

SWMU 1	Southeast Tank Farm
SWMU 2	Atmospheric Distillation Unit (ADU)
SWMU 3	Dehydrators
SWMU 4	Oil Distillate Holding Tanks
SWMU 5	Filter House
SWMU 6	Blend Building
SWMU 7	Blend Building Polishing Filter
SWMU 8	Waste Glycol Storage Tank
SWMU 9	Vacuum Distillation Unit (VDU) 1
SWMU 10	Water-Glycol Mixture Holding Tank
SWMU 11	Glycol Holding Tank
SWMU 12	Oily Wastewater Holding Tank
SWMU 13	VDU 2
SWMU 14	VDU 3
SWMU 15	VDU 4
SWMU 16	Wastewater Treatment Plant (WWTP)
SWMU 17	Railcar Unloading Area
SWMU 18	Contaminated Soil Pile
SWMU 19	Leaking Underground Storage Tank (LUST) Water Holding Tanks

AREAS OF CONCERN

AOC 1	Contaminated Soil and Groundwater (Located throughout the facility)
AOC 2	Former Gasoline UST

LEGEND

- RAILROAD TRACKS
- PROPERTY BOUNDARY
- FENCE LINE

ENVIROPUR WASTE REFINING AND TECHNOLOGY, INC.
McCOOK, ILLINOIS

FIGURE 2

FACILITY LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.

SOURCE: MODIFIED FROM ENVIROPUR 1994c

ENVIROPR.DWG - 09/22/94 - RAO - 070-RO500104RP

TABLE 2

SOLID WASTES

Waste/EPA Waste Code[a]	Source	Solid Waste Management Unit[b]
Wastes Received from Off-Site Sources		
Used oil/NA	Off-site generators	1, 2, 3, 4, 5, 6, 7, 9, 16, and 17
Waste glycol/NA	Off-site generators	8, 10, 11, 13, and 16
Oily wastewater/NA	Off-site generators	12, 14, 15, and 16
Leaking underground storage tank (LUST) waters/NA	Off-site generators	16 and 19
Wastes Generated On Site		
Wastewater/NA	Rerefining process	16
Waste clay/NA	Filtering process	5 and 7
Spent mineral spirits/NA	Maintenance department	None
Contaminated soil/NA	Remediation project	18

Notes:

a Not applicable (NA) designates nonhazardous waste.

b "None" indicates that the waste stream is not managed on site.

to the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) via its sanitary sewer.

Waste clay is generated when used oil is filtered in the Filter House (SWMU 5) and in the Blend Building Polishing Filter (SWMU 7). The clay removed from the filter presses is managed in a 15-cubic-yard (yd^3) roll-off box in SWMU 5. The waste clay contains about 1 percent oil and is transported as a solid waste to Settler's Hill Landfill in Geneva, Illinois, or to County Environmental Landfill in Pontiac, Illinois. The facility generates between 15 and 30 yd^3 of waste clay each week.

Spent mineral spirits used in a parts washer are transported off site by Custom Blended Oil of Peotone, Illinois. The waste is not managed on site. Approximately 20 gallons of spent mineral spirits is generated each month.

Contaminated soil excavated from the Contaminated Soil and Groundwater (AOC 1) is currently being stored in the Contaminated Soil Pile (SWMU 18). Approximately 1,000 yd^3 of contaminated soil from an area where a proposed secondary containment dike will be constructed is being stored while Enviropur and its environmental contractor determine an appropriate bioremediation technology to treat it. Additional information regarding this waste is provided in Section 2.4.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to groundwater, surface water, air, and on-site soils at the facility. Releases to off-site soil are also discussed.

Releases to groundwater and on-site soils have been documented. On April 3, 1991, a consent order was entered to resolve allegations against Enviropur, including those of soil contamination, water pollution, and creation of a public nuisance. Remedial actions were set forth in the "Interim Remediation Plan for McCook Facility (IRP)," dated October 9, 1992 (Circuit Court of Cook County 1993). Under a modified consent order, filed January 1993, Enviropur is implementing remedial actions to address the Contaminated Soil and Groundwater (AOC 1) generated by more than 5 decades of rerefining processes. Oil spillage and leakage exist as a result of storing used oil and from loading and unloading oil from trucks and railcars. SWMUs associated with AOC 1 include the

following: the Southeast Tank Farm (SWMU 1), Oil Distillate Holding Tanks (SWMU 4), the Railcar Unloading Area (SWMU 17), and the LUST Water Holding Tanks (SWMU 19). At the request of IEPA, the Attorney General of the State of Illinois (Attorney General) commenced the consent orders. On November 1, 1993, cleanup objectives were originally established for the Enviropur facility by IEPA. Groundwater and soil cleanup objectives were set at Class I groundwater standards. On January 26, 1994, IEPA decided to allow Class II groundwater cleanup objectives for the soil; however, Class I groundwater cleanup standards apply for both the alluvial and bedrock aquifers (IEPA 1994a).

In March 1993, groundwater samples were collected from alluvial monitoring wells and bedrock monitoring wells located along the southern boundary of the facility. Analysis of groundwater from the alluvial monitoring wells revealed levels of benzene, lead, and phenols that exceeded Class I groundwater standards. The concentration of contaminants exceeding the standards were as follows: benzene ranged from 10 to 110 micrograms per liter (μg/L), lead ranged from 17 to 200 μg/L, and the phenol concentration was 930 μg/L. Additional contaminants detected in the alluvial and bedrock monitoring wells, that were present in concentrations below the Class I groundwater standards include the following: tetrachloroethane, methylene chloride, several semivolatiles, and 2-methylnaphthalene. Semivolatiles include acenaphthene, bis(2-ethylhexyl)phthalate, fluorene, naphthalene, and phenanthrene. Methylene chloride was also detected in the laboratory blanks. Because some volatile organic compounds (VOC) were detected by Enviropur's analytical laboratory and were not detected by the IEPA contract laboratory, the bedrock wells will be sampled during two additional sampling events to provide data to further evaluate groundwater in the bedrock (RAPPS 1993).

Samples were collected from the oil layer that existed on the groundwater in one well. Sample analyses revealed the presence of PCB Aroclor-1260, volatile, semivolatile, and inorganic priority pollutants including arsenic, barium, beryllium, copper, and zinc. Volatiles include benzene, chlorobenzene, chloroethane, 1,1-dichloroethane, ethylbenzene, methylene chloride, and toluene. Semivolatiles include acenaphthene, bis(2-ethylhexyl)phthalate, fluorene, naphthalene, and phenanthrene. Oil samples from another well did not reveal the presence of any organic priority pollutants, but did contain relatively high concentrations of inorganic priority pollutants (RAPPS 1993).

Three soil samples were collected to characterize the material prior to the biotreatability study. The samples were analyzed for VOC and polynuclear aromatic hydrocarbon (PNA) contamination. The samples were collected from locations near the tanks where most known spillage has occurred over the years; this includes the Southeast Tank Farm (SWMU 1), the Oil Distillate Holding Tanks (SWMU 4), the Railcar Unloading Area (SWMU 17), and the LUST Water Holding Tanks (SWMU 19). The concentration of total PNAs detected in the three samples ranged from 16,710 to 21,470 microgram per kilogram (μg/kg) (parts per billion [ppb]) with the average concentration being 18,413 ppb. VOCs detected include tetrachloroethene, ethylbenzene, toluene, and xylenes. Ethylbenzene, toluene, and xylenes were below the LUST program cleanup objectives. The concentrations of tetrachloroethene ranged from 30 to 54 ppb (RAPPS 1993).

The modified consent order requires the facility to complete remedial actions in 10 phases within 4.5 years. Generally, required remedial actions include installing two lift stations to manage surface water, collecting and analyzing soil and groundwater samples, removing and replacing various tanks, bioremediating soils in various locations within the facility, and constructing curbed containment structures. The order also requires installing monitoring wells, extraction wells, and a French drain system. If Enviropur has not completely met IEPA cleanup objectives within 4.5 years after the Phase 3 start date, subject to extensions, Enviropur shall conduct a remedial investigation and feasibility study (RI/FS) and shall perform additional remediation as described in the modified consent order (Circuit Court of Cook County 1993).

On November 2, 1993, Enviropur submitted a remediation plan titled: "Evaluation of Bioremediation to Remediate Oil Impacted Soils," to IEPA. The study showed that bioremediation was successful with the majority, but not all, of the contaminants to be remediated below IEPA cleanup objectives (Enviropur 1993c). On November 18, 1993, IEPA informed the facility that bioremediation is not a feasible technology for remediating soils at the Enviropur facility. IEPA requested that an alternative soil remediation plan be submitted within 3 months of the November 18, 1993 letter (IEPA 1993d). Currently, Enviropur is storing approximately 1,000 yd^3 of contaminated soil in the Contaminated Soil Pile (SWMU 18). The soil was excavated from an area where a proposed secondary containment dike will be constructed. This area is part of the Contaminated Soil and Groundwater (AOC 1). SWMU 18 will be stockpiled until a treatment technology is determined (Enviropur 1994c).

A release to surface water has been documented. On April 5, 1983, IEPA examined the ditches adjacent to the eastern and southern portions of the property that was then named Motor Oils Refining Company. IEPA observed a large amount of an oil-like substance both on the facility's property and on the surface of the ditches. Laboratory analysis of a grab sample collected from the ditch downstream of an oil skimming device revealed an oil concentration of 260,000 milligrams per liter (mg/L). On June 9, 1983, IEPA issued a Notice of Discharge without an National Pollutant Discharge Elimination System (NPDES) permit (IEPA 1983a). On November 23, 1983, IEPA again inspected the facility. IEPA observed that the area east of the facility appeared satisfactory with no signs of pooled oil in the drainage way. Traces of past overflows or runoff were observed along the property line. IEPA observed that the area south of the facility appeared to be marginally satisfactory with traces of oil outside of the property boundary. IEPA characterized both areas as having a high potential for contaminated storm water to escape the grounds during wet weather. Also during this inspection, IEPA observed traces of oil on the surface of the east branch of McCook Ditch (IEPA 1983b). During PRC's file review, no further information was available regarding this release. All stormwater runoff is currently routed to the WWTP (SWMU 16).

Two incidents requiring an emergency response have occurred at the Enviropur facility. On October 2, 1990, an incident apparently related to the facility (Illinois Emergency Services and Disaster Agency [IESDA] Incident Number 902881) occurred when the odor of natural gas was reported in areas of McCook and the neighboring towns of Brookfield and Lyons. IEPA investigated the area around and upwind of the Enviropur facility and found the odor to be apparently emanating from the facility (IESDA 1990).

On February 1, 1992, the second incident, an explosion (IESDA Incident Identification Number 92096), occurred when hot, sulfurized lard oil, used as a metal working additive, in the tank T-5 (VDU 1 [SWMU 9]) reactor was transferred to storage tank 308 (no longer in service) that was cold. Approximately 2,000 gallons of lard oil was released onto an area covering about 10,000 square feet. A few minor fires resulted from the explosion and were extinguished by Enviropur personnel. The McCook Fire Department was called to the facility and the Illinois Emergency Management Agency investigated the incident. Enviropur removed the spilled lard oil, which hardened upon cooling, containerized the waste, and cleaned various equipment using a pressure washer. Wastewater and oil generated during the cleanup were treated in the WWTP (SWMU 16) (Moreco 1992). No

information was available regarding the disposal of the containerized waste lard oil. The facility ceased operations during cleanup. No waste material was released from the facility (IEPA 1992a). The IEPA Division of Air Pollution Control was notified of both incidents.

An off-site soil release has been documented. On February 6, 1992, a contractor representing a party interested in purchasing the property, performed a Phase 2 Subsurface Investigation at 7701 West 47th Street. This property is on the western boundary of the Enviropur facility. During the subsurface investigation, contamination caused by refined petrochemicals was detected to a depth of 10 feet and was assumed to extend deeper than 10 feet. The contractor attributed the soil contamination to the Enviropur facility. The contractor assessed the presence of hydrocarbons using a photoionization detector (PID). PID readings for hydrocarbons ranged from 0 to greater than 1,000 ppm on nine boreholes drilled throughout the 7701 West 47th street property (The White Oak Group 1992). The PA did not reveal any information suggesting that IEPA has required further action on this matter.

2.5 REGULATORY HISTORY

Significant controversy exists regarding the facility's past regulatory status. Gaps and inconsistencies in data examined during the PA and VSI make it difficult to determine the facility's past regulatory status. The following subsections discuss RCRA permit notifications and applications, facility inspections and enforcement actions, air and water permits, and underground storage tank (UST) activities.

2.5.1 RCRA Permit Notifications and Applications

Enviropur submitted RCRA notifications and Part A and Part B permit applications for activities that were anticipated to occur on site but never took place, and for activities that are exempt from RCRA permitting requirements that facility representatives expected would require RCRA permits. IEPA currently classifies the facility as a nonhandler of hazardous waste and as a used oil rerefiner subject to regulation under 40 CFR Part 279, but as exempt from RCRA permitting requirements. A description of notifications and applications follows:

- On November 17, 1980, the first Part A permit application was submitted for tank treatment (process codes T01 and T04) of D002, D008, K048, K049, K050, K051, and K052 wastes. The specific tank treatment units were not identified by location in this application (Moreco 1980). The PA revealed no evidence to show that the above-referenced K-wastes were ever accepted at the facility. The facility has treated both D002 and D008 characteristic hazardous used oil. In the early 1980s, treatment of such used oils was exempt from RCRA permitting requirements under the recycling provision of 40 CFR Part 261. These activities are currently regulated under 40 CFR Part 279 and continue to be exempt from RCRA permitting requirements.

- On January 4, 1982, a Part A permit application was submitted for tank storage (process code S02) of D008 characteristic hazardous waste. Specific tank units were not identified by location. As with the 1980 Part A permit application, this application was submitted if recycling of hazardous characteristic used oil became subject to RCRA permitting requirements (Moreco 1982).

- The exact submittal date for the Part B application was not available during the PA. However, other file documents indicate that it was submitted in the early 1980s (EPA 1983). On February 27, 1983, EPA informed the facility that it was not governed under current agency regulations, that it did not have interim status, and that processing of the Part B permit was terminated (EPA 1983).

- On January 27, 1986, a notification identifying the facility as a TSD for hazardous used oil containing greater than 1,000 ppm halogens was submitted (Moreco 1986a). Enviropur's permit allows the facility to accept used oil containing more than 1,000 ppm total chlorine, provided the presumption that the waste is a hazardous waste can be rebutted by demonstrating that the waste stream in question does not contain any hazardous waste (IEPA 1994c). No evidence was available during the PA to show that this type of waste was ever accepted. PRC did not review manifests or waste analysis documents during the VSI.

- On November 29, 1986, a Part A permit application was submitted for container and tank storage (process codes S01 and S02) of hazardous waste containing greater than 1,000 ppm halogens (Moreco 1986b). No documentation was available to show that these types of waste were ever accepted. PRC did not review manifests or waste analysis documents during the VSI. In addition, facility representatives stated that waste was never accepted in containers. The facility has not requested that this Part A permit application be withdrawn.

- According to an August 31, 1993, IEPA inspection report, a notification of hazardous waste activity was submitted on August 11, 1980 (IEPA 1993c). However, this notification was not available during the PA. Consequently, no information can be provided on its contents.

- On September 10, 1993, the facility submitted a notification of regulated waste activity. The notification identified the facility as a marketer of used oil subject to regulation under 40 CFR Part 266 but exempt from RCRA permitting requirements (Enviropur 1993a).

2.5.2 Facility Inspections and Enforcement Actions

IEPA conducted inspections at the facility on the following dates: April 10, 1981; June 16, 1989; August 31, 1993; and December 10, 1993. On July 17, 1981, EPA conducted an inspection.

Inspection reports from both the IEPA April 10, 1981, inspection and from the EPA July 17, 1981, inspection classified the facility as both a hazardous waste generator and as a TSD (IEPA 1981 and EPA 1981). The inspection reports provided no information regarding the types of hazardous wastes handled or what specific units managed hazardous waste. Violations related to paperwork and emergency procedures were cited. No documentation was available in the file to show that the facility ever responded to these violations.

The June 16, 1989, IEPA inspection classified the facility as a hazardous waste TSD. This classification was based on a shipping bill for K022 waste that was discovered during an IEPA inspection at the BTL Specialty Resins Corporation facility in Alsip, Illinois. The bill identified Moreco as the receiving facility for the waste. However, Moreco representatives claimed that the shipping bill was incorrectly filled out. Moreco stated that it was only transporting the waste to a steel mill permitted to take K022 waste and that it was not taking the waste to the McCook facility (Moreco 1989). IEPA cited violations related to lack of permits and manifests for accepting K022 waste (IEPA 1989). No evidence was available in the file to indicate whether or not IEPA accepted the facility's claim.

On April 3, 1991, a consent order was issued by the Cook County Circuit Court and the State Attorney General for violations of Sections 21(a), 12(a), and 12(d) of the Illinois Environmental Protection Act and Section 26 of the Illinois Public Nuisance Act (Cook County Circuit Court 1993). These violations are related to soil contamination and water pollution. During the PA, the IEPA inspection reports citing these violations were unavailable. The consent order ordered site-wide interim remediation of soils and groundwater monitoring. This remediation is currently underway and is being monitored by IEPA's state Superfund program. A modified consent order dated January 1993 ordered the facility to complete the remediation in 4.5 years (Cook County Circuit Court 1993). The August 31, and December 10, 1993, IEPA inspections classified the facility as a nonhandler of hazardous waste (IEPA 1993c and 1993e). On January 31, 1994, the IEPA Enforcement Decision

Group deferred resolving the June 16, 1989 violations until the facility complies with the modified consent order (IEPA 1994b).

During September 1994, Enviropur accepted and processed two shipments of oily wastewater that contained PCBs. Argonne National Laboratory (Argonne) improperly manifested the 1,490 gallons of "nonhazardous oil/water" and Illinois Recovery Systems (IRS) transported this waste to Enviropur. IRS also generated and improperly manifested 7,200 gallons of "nonhazardous oil/water" that was transported to Enviropur by Stanton Industries. After these wastes were processed, Enviropur's laboratory reported that the waste from Argonne and IRS contained a PCB concentration of 481.195 ppm and 178.4 ppm, respectively (Enviropur 1994e). No documentation was available regarding IEPA's response to Enviropur's acceptance of improperly manifested PCB waste. SWMUs that manage oily wastewater include SWMUs 12, 14, 15, and 16.

On November 2, 1994, Enviropur submitted a Manifest Discrepancy Report to EPA for 5,600 gallons of "water soluble oil" that contained a PCB concentration of 756 ppm. LaSalle Rolling Mills, Incorporated (LRM) generated the waste and North Branch Environmental transported it to Enviropur. Enviropur mixed the waste with other oily wastewater in tank 325, the Oily Wastewater Holding Tank (SWMU 12), bringing the total quantity of PCB-containing waste to 20,200 gallons (Enviropur 1994f). No documentation was available regarding IEPA's response to Enviropur's acceptance of improperly manifested PCB waste.

2.5.3 Air and Water Permits

The facility is required to have operating air permits. Enviropur currently has two revised operating air permits and one joint construction and operating permit for its facility (ID No. 031174AAE).

On February 6, 1991, IEPA issued a revised operating permit (Application No. 81040082) for storage tank No. 400 (IEPA 1991). On August 28, 1992, IEPA issued a revised operating permit (Application No. 72110951) to operate the following natural gas fired equipment:

- Fifteen agitators
- Four reactors

- Two 500-horsepower boilers
- Six wet tube furnaces
- Three vaporizers
- One fume incinerator

On August 25, 1993, IEPA issued a joint construction and operating permit (Application No. 93060124) for a fume scrubber to control odor emissions from two Sperry filter presses (IEPA 1993b).

The facility has not violated its air permits, although in the past area residents have complained of odors near the facility, as discussed in Section 2.4.

The facility is required to have a water pollution control permit. On June 22, 1994, IEPA issued Permit No. 1994-EN-0552 to Enviropur to modify and operate the existing WWTP (SWMU 16) (IEPA 1994e). As discussed in Section 2.4, Enviropur has had compliance problems related to surface water discharges.

2.5.4 UST Activities

On May 1, 1991, the Office of the Illinois State Fire Marshall (OISFM) issued Permit No. 9811-REM to Moreco to remove a 1,200-gallon gasoline UST, the Former Gasoline UST (AOC 2) (OISFM 1991). On May 29, 1991, soil contamination was discovered during removal of AOC 2 and was reported to IESDA (Incident No. 911423) (IESDA 1991). No further information was available in the files regarding the incident or the UST removal.

2.5.5 Onground and Aboveground Tank Inspections

As required by Enviropur's special waste permit, all on-site tanks that manage waste must be visually inspected and tested for thickness by an engineer. The tanks are tested against criteria set forth in the American Petroleum Institute Standard 653. The most recent inspection occurred from May 1992 through June 1993 and was conducted by Innovation Plus Consulting and Engineering Services

(Innovation Plus) of Woodridge, Illinois. At that time all tanks were found to be in very good condition, with the exception of tanks T-1 and T-2 of ADU (SWMU 2) and T-3 of VDU 2 (SWMU 13). Enviropur began repair work on these tanks after June 1993 (Enviropur 1993b).

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and groundwater in the vicinity of the facility.

2.6.1 Climate

Cook County has a continental humid climate with some influence from the Great Lakes. The average daily maximum temperature is 72 °F in July, and the average daily minimum temperature is 49 °F in January (USDA 1976). The total annual precipitation for the county is 33.4 inches. Total annual snowfall is 39 inches (USDA 1976). The mean annual lake evaporation is approximately 30 inches. The 1-year, 24-hour maximum rainfall for the area is approximately 4.25 inches (USDA 1976). The average wind speed for the area is 18.4 knots. Wind is from the north-northeast in the winter and from the south in the summer (DOC 1980).

2.6.2 Flood Plain and Surface Water

The Enviropur facility is located in area where the 100-year flood base, flood elevations, and hazard factors have not been determined (FEMA 1991).

The nearest surface water body, the Des Plaines River, is adjacent to the facility on the eastern border and is used for recreational purposes. The Des Plaines River flows into the Illinois River approximately 35 miles downstream from the Enviropur facility.

Surface water at the facility is managed on site in the WWTP (SWMU 16). In 1983, IEPA inspected the facility and noted that storm water runoff flowed to the east and south (IEPA 1983b). Phase 1 of the modified consent order was entered on January 1993, and required Enviropur to install two lift stations to manage surface water drainage at the facility. IEPA determined that a permit to construct

these list stations was not required (IEPA 1993a). Before Enviropur could begin construction of the lift stations, MWRDGC halted work, requested a review of the project, and finally required Enviropur to submit a construction permit application. On December 21, 1993, MWRDGC issued permit number 93-491, allowing Enviropur to construct the lift stations (Enviropur 1994a). During April 1994, a total of three lift stations were installed along the southern boundary of the facility (PRC 1994b).

2.6.3 Geology and Soils

The geology of the Enviropur facility consists of fill material, Cahokia Alluvial, Wedron Formation and Racine Formation (bedrock). The fill material, which is a coarse cobble material, extends from the ground surface to a maximum depth of 2 feet below ground surface (bgs). The Cahokia Alluvial, which consists of interbedded sandy silt, coarse sand, and silty clay deposits, extends below the fill material to a maximum depth of 14.7 feet bgs. Underlying the fill material and the Cahokia Alluvial is an 8- to 18-foot-thick till (Wedron Formation) that is a dark gray silty clay and is very dense. The Cahokia Alluvial and the Wedron Formation increase in thickness toward the southeast portion of the facility. Below the unconsolidated deposits, Silurian-aged bedrock of the Racine Formation was encountered. The bedrock consists of a light gray dolomite that was encountered from 19.5 to 30.5 feet bgs (IEPA 1994d).

2.6.4 Groundwater

The water-bearing units, one shallow and one deep, have been investigated at the facility. The shallow aquifer consists of interbedded silt, sand, and clay units. The deep aquifer consists of the dolomite formation (bedrock). A confining layer, the dark gray silty clay till of the Wedron Formation, separates the upper water-bearing zone from the deeper bedrock aquifer. The confining layer appears to be continuous throughout the facility. Groundwater flow at the facility is toward the east-southeast, in the direction of the Des Plaines River. The depth to groundwater in the alluvial wells ranged from 4.3 to 13.0 feet bgs, while the depth to groundwater in the bedrock wells ranged from 13.75 to 15.78 feet bgs (IEPA 1994d).

2.7 RECEPTORS

The facility occupies 6.2 acres in an industrial area in McCook, Illinois. McCook has a population of about 300 (PRC 1994a).

The facility is bordered on the north by a bowling alley, on the west by Denton Trucking, and on the south and east by the Des Plaines River. The nearest residential area is located behind the bowling alley about 0.1 mile north of the facility in Lyons, Illinois. Access to the facility is limited by fencing on the north, east, and west sides of the property. Access from the south is limited by the Des Plaines River and railroad tracks. No roads are present on the south side.

The nearest surface water body, the Des Plaines River, borders the facility on the south and east and is used for recreational purposes. Other surface water bodies in the area include several fishing lakes within Chicago Portage Woods and Ottawa Trail Woods South parks, which are properties of the Forest Preserve District of Cook County.

Groundwater is not used as a water supply in McCook or the neighboring Village of Lyons. The nearest drinking water well is located less than 0.5 mile northeast of the facility in the Ottawa Trail Woods South forest preserve. This well is located upgradient of the facility and is on the east side of the Des Plaines River. The nearest downgradient well, which extends down to bedrock, is located less than 0.5 mile south of the facility.

Sensitive environments are not located on site. The nearest sensitive environment, the Des Plaines River, is adjacent to the facility's southern and eastern border. The Des Plaines River is classified as a permanently flooded, lower perennial, open water, riverain system. Chicago Portage Woods is on the eastern bank of the Des Plaines River. Several forested and aquatic bed palustrine systems exist in this area. The nearest is 0.25 mile east of the facility (DOI 1981). Neither federally endangered nor threatened species occur within a 2 mile radius of the facility (DOI 1994).

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 19 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations.

SWMU 1 **Southeast Tank Farm**

Unit Description: The Southeast Tank Farm stores incoming nonhazardous used oil and rerefined used oil in tanks 7 through 10, 120 through 133, and 143 through 146. This unit is located outdoors in the southeast corner of the facility's property and includes 22 vertical tanks, 18 of which have a maximum capacity of 21,380 gallons. Tanks 7 through 10 are now out of service and capacity and construction information is not available. The other 18 tanks were constructed in either 1952 or 1969 and are constructed of carbon steel. Originally, the tanks in this unit were constructed of riveted steel.

Date of Startup: This unit began operation in 1942 with the tanks being upgraded in 1952 and 1969.

Date of Closure: This unit is active.

Wastes Managed: The active tanks of this unit manage nonhazardous used oil and partially rerefined used oil. From this unit, used oil is processed through the rerefinery. Ultimately, the used oil is rerefined into a product.

Release Controls: This unit has no release controls. Operators visually observe waste levels to prevent releases during filling. The tanks are located on fill material and have no secondary containment.

History of Documented Releases: The facility has a history of used oil spills and tank leaks. Releases to groundwater, surface water, and on-site soils have been documented. Phases 6 and 9 of the modified consent order require Enviropur to remove the tanks in this SWMU, remediate soil in the area, and install tanks in a newly diked area on the western boundary of the facility.

Observations: The unit contained various quantities of used oil or partially processed rerefined used oil during the VSI. PRC noted oil stains on the ground in the area of this unit and throughout the facility (see Photographs No. 1 and 2).

SWMU 2 **Atmospheric Distillation Unit (ADU)**

Unit Description: This unit consists of two vertical tanks, T-1 and T-2, where used oil is distilled under atmospheric conditions. Tanks T-1 and T-2 have a maximum capacity of 10,500 gallons and 15,500 gallons, respectively. The tanks are constructed of carbon steel and are located outdoors on concrete with no secondary containment. T-1 was installed in 1973, and T-2 was installed in 1975. Originally, the tanks were constructed of riveted steel.

Date of Startup: This unit began operation in 1942 with the tanks being upgraded from riveted steel to carbon steel in 1973 and 1975.

Date of Closure: This unit is active.

Wastes Managed: This unit manages used oil and is part of the rerefining operation. Used oil is ultimately rerefined into a product.

Release Controls: This unit is located on concrete of unknown thickness with no secondary containment. During the most recent integrity tests of these

tanks, Innovation Plus recommended that the insulation on both tanks be removed and replaced.

History of Documented Releases: No releases from this unit have been documented. The modified consent order does not specify any actions for this area.

Observations: The unit was operating during the VSI. PRC observed that the tanks and concrete were in good condition and noted no evidence of release (see Photograph No. 3).

SWMU 3 **Dehydrators**

Unit Description: This unit consists of two tanks designated as "old" and "new." The dehydrators are located to the west of the Southeast Tank Farm (SWMU 1) and are on concrete. Both tanks have cone-shaped bottoms and a capacity of 15,000 gallons. The tanks were installed in 1974 and 1977. Originally, the tanks were constructed of riveted steel. This unit currently stores used oil. In the past, this unit acted as a dehydrator and removed water from used oil.

Date of Startup: This unit began operation in 1942. The tanks were upgraded to carbon steel in 1974 and 1977.

Date of Closure: This unit is active. The dehydrating process ended approximately 1 year ago.

Wastes Managed: The unit now stores incoming used oil. In the past, this unit managed used oil that had been distilled in the ADU (SWMU 2). Wastewater generated in this unit was pumped to the WWTP (SWMU 16). The remaining oil was pumped to VDU 1 (SWMU 9) for further

	distillation. Dehydration now occurs completely in SWMU 2. Ultimately, the used oil is rerefined into a product.
Release Controls:	This unit is located on undiked concrete of unknown thickness with no secondary containment.
History of Documented Releases:	No releases from this unit have been documented. The modified consent order does not specify any actions for these tanks.
Observations:	The unit contained used oil during the VSI. PRC noted oil stains in the area around this unit (see Photograph No. 4).
SWMU 4	**Oil Distillate Holding Tanks**
Unit Description:	This unit consists of nine aboveground vertical tanks, labeled F through N and underground transmission lines. The unit holds oil distillate in cone-bottomed tanks that each have a maximum capacity of 12,000 gallons. The carbon steel tanks were installed in 1960. Originally, the tanks were constructed of riveted steel. The tanks are located over gravel fill on the facility's east border.
Date of Startup:	This unit began operation in 1942. The observed tanks were installed in 1960.
Date of Closure:	This unit is active.
Wastes Managed:	This unit holds oil distillate from VDU 1 (SWMU 9). The oil distillate is pumped to the Filter House (SWMU 5) for finishing into oil products.
Release Controls:	This unit has no release controls and has no secondary containment.

History of Documented Releases: Releases to groundwater and on-site soils have been documented. Phases 5 and 8 of the modified consent order specify that tanks within this unit be removed, that the soils under the tanks be remediated, and that the new tanks be placed within a diked concrete containment area. Underground transmission lines must be removed. Installation of groundwater monitoring wells and extraction wells is also specified.

Observations: The unit was operating and contained oil distillate from the rerefining process during the VSI. PRC noted oil-coated gravel beneath the tanks (see Photograph No. 5).

SWMU 5 **Filter House**

Unit Description: This unit consists of a building located about 6 feet aboveground that houses four filter presses. The floor of the building is constructed of metal grating. The ground beneath the building, which is visible through the metal grating, is composed of fill material. Adjacent to the building is a 15-yd^3 roll-off box used to manage filter cake. The roll-off box is located on concrete.

Date of Startup: This unit began operation in 1942.

Date of Closure: This unit is active.

Wastes Managed: This unit manages used oil in one of the final steps of the rerefining process. After filtering, the oil becomes either base oil (product) or is blended and refiltered in the Blend Building Polishing Filter (SWMU 7), and is then pumped to the Blend Building (SWMU 6). This unit also manages nonhazardous waste clay in the roll-off box. The waste clay is transported as a solid waste to Settler's Hill Landfill in

	Geneva, Illinois, or County Environmental Landfill in Pontiac, Illinois for landfilling.
Release Controls:	The building portion of the unit is located over gravel which has a 3-foot-high concrete block dike. The roll-off box is located on concrete.
History of Documented Releases:	No releases from this unit have been documented; however, PRC observed soil contamination under this unit. The modified consent order does not specify any remediation in this area.
Observations:	The unit was filtering used oil during the VSI and the roll-off box contained waste clay. PRC noted oil-stained gravel within the diked area and outside the dike between the dike and the roll-off box (see Photographs No. 6 and 7). PRC also observed that the roll-off box was uncovered.
SWMU 6	**Blend Building**
Unit Description:	This 80- by 160-foot building houses 26 onground vertical tanks that range in capacity from 1,000 to 21,000 gallons. The building has an undiked concrete floor and concrete block walls. Four floor drains are present in the building. Base oil and additives are blended in the tanks within this unit to produce finished products. All of the tanks in this unit were installed in 1962, replacing riveted steel tanks, and are constructed of carbon steel.
Date of Startup:	This unit began operation in 1942 and the tanks were upgraded in 1962.
Date of Closure:	This unit is active.

Wastes Managed:	This unit manages base oil which is ultimately blended with additives and made into a finished product.
Release Controls:	This unit is located indoors on concrete. The walls of the unit are concrete block. The unit has four floor drains that ultimately lead to the WWTP (SWMU 16).
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit contained base oil and base oil blended with additives during the VSI. PRC noted that the tanks and concrete floor were in good condition with no cracks (see Photographs No. 8 and 9). PRC noted no evidence of release.

SWMU 7 **Blend Building Polishing Filter**

Unit Description:	This unit consists of one filter press that is used as a final filter for base oil. The unit is located indoors on concrete.
Date of Startup:	This unit began operation in 1942.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages rerefined used oil that becomes a base oil after filtering. Waste clay removed from the unit is managed in the roll-off box of the Filter House (SWMU 5).
Release Controls:	The unit is located indoors on concrete. The concrete floor has drains that lead to the on-site WWTP (SWMU 16).
History of Documented Releases:	No releases from this unit have been documented.

Observations:	The unit was not operating during the VSI. PRC noted some oil stains on the concrete floor near the filter press (see Photograph No. 10). PRC noted that the concrete floor was in good condition with no cracks.
SWMU 8	**Waste Glycol Storage Tank**
Unit Description:	This unit consists of tank 412. The tank has a capacity of 21,380 gallons and is made of carbon steel. The existing tank was installed in 1969, replacing the original, riveted steel tank. The tank is located on concrete that has a 6-inch-high concrete dike.
Date of Startup:	This unit began operation in 1942 and the tank was upgraded in 1969.
Date of Closure:	This unit is active.
Wastes Managed:	This unit managed used oil until late 1991. The unit now stores incoming waste glycol that Enviropur recycles and ultimately converts into a product.
Release Controls:	The unit is located on concrete that has a 6-inch high concrete dike.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit contained waste glycol during the VSI. PRC noted that the tank and secondary containment were in good condition with no cracks (see Photograph No. 11). PRC noted no evidence of release.

SWMU 9	**Vacuum Distillation Unit (VDU) 1**
Unit Description:	This unit consists of a 14,500-gallon-capacity, steel tank identified as T-5. The tank is located outdoors on concrete that has a 4-inch-high concrete dike surrounding it. This tank is located next to tank T-4.
Date of Startup:	This unit began operation in 1942 and the observed tank was constructed in 1976 to replace the original, riveted steel tank.
Date of Closure:	This unit is active.
Wastes Managed:	This unit distills used oil under vacuum conditions. The distillate is pumped to the Oil Distillate Holding Tanks (SWMU 4) and is further processed into an oil product. The heavy hydrocarbons remaining in SWMU 9 after distillation are pumped to a product tank and are sold as an asphalt extender.
Release Controls:	The unit is located on a diked concrete pad.
History of Documented Releases:	In February 1992, an explosion occurred when hot sulfurized lard oil was transferred from this unit to another tank. About 2,000 gallons of lard oil was released onto the ground, hardened upon cooling, was removed with a shovel, and placed in containers.
Observations:	The unit was operating during the VSI. PRC noted that the tank and secondary containment were in good condition with no cracks. PRC noted no evidence of release (see Photograph No. 12).

SWMU 10	**Water-Glycol Mixture Holding Tank**
Unit Description:	This unit consists of tank 403, a 21,380-gallon-capacity steel tank that is used to hold a mixture of water and glycol. The tank is located outdoors on concrete that has a 4-inch-high concrete dike. The tank was installed in 1969.
Date of Startup:	This unit began operation in 1969.
Date of Closure:	This unit is active.
Wastes Managed:	This unit currently manages a mixture of water and glycol. Before 1991, the unit managed used oil. The mixture is processed further in VDU 2 (SWMU 13) or is pumped to the WWTP (SWMU 16). Ultimately, the glycol portion is recycled into a product.
Release Controls:	The unit is located on a diked concrete pad.
History of Documented Releases:	No releases from this unit have been documented. Tank 403 is not identified in the modified consent order.
Observations:	The unit contained a mixture of water and glycol during the VSI. PRC noted that the tank and secondary containment were in good condition with no cracks (see Photograph No. 13) and also noted no evidence of release.
SWMU 11	**Glycol Holding Tank**
Unit Description:	This unit consists of tank 20, an 8,000-gallon-capacity steel tank. The tank is located on concrete that has a 6-inch-high concrete dike. The tank was installed in 1969.

Date of Startup:	This unit began operation in 1969.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages recycled glycol, which is sold as a product. In the past, the unit managed used oil.
Release Controls:	This unit is located on concrete that has 4-inch-high concrete dike surrounding it.
History of Documented Releases:	No releases from this unit have been documented. Tank 20 has not been identified in the modified consent order.
Observations:	The unit contained recycled glycol during the VSI. PRC noted that the tank and secondary containment were in good condition (see Photograph No. 14). PRC observed no evidence of release.
SWMU 12	**Oily Wastewater Holding Tanks**
Unit Description:	This unit consists of tanks 324 and 325. Each steel tank has a capacity of 21,380 gallons. The tanks were installed in 1969 and are located on concrete that has a 6-inch-high concrete dike.
Date of Startup:	This unit began operation in 1969.
Date of Closure:	This unit is active.
Wastes Managed:	This unit managed used oil until the facility began managing oily wastewater. The oily wastewater is distilled in VDU 3 (SWMU 14) and VDU 4 (SWMU 15) before being processed along with the used oil. Wastewater generated during distillation of oily wastewater is

	managed in the WWTP (SWMU 16). Tank 325 of this unit managed PCB-contaminated oily wastewater on two occasions during September and October of 1994.
Release Controls:	The unit is located on concrete that has a 6-inch-high concrete dike.
History of Documented Releases:	No releases from this unit have been documented. Tanks 324 and 325 have not been identified for remedial action in the modified consent order.
Observations:	The unit contained oily wastewater during the VSI. PRC noted oil stains on the concrete within the secondary containment (see Photograph No. 15). Both the tanks and secondary containment were in good condition with no cracks visible in the concrete.
SWMU 13	**VDU 2**
Unit Description:	This unit consists of tank T-3, a 14,000-gallon steel tank installed in 1957. The unit is located next to tank 20, the Glycol Holding Tank (SWMU 11), and is on concrete that has a 6-inch-high concrete dike.
Date of Startup:	This unit began operation in 1957.
Date of Closure:	This unit is active.
Wastes Managed:	This unit managed used oil in the past. The unit currently distills waste glycol under vacuum conditions. Wastewater generated in the distillation process is pumped to the WWTP (SWMU 16) for treatment. Glycol recovered in this unit is transferred to the Water-Glycol Mixture Holding Tank (SWMU 10), then to the Glycol Holding Tank (SWMU 11).

Release Controls:	This unit is located on concrete that has a 6-inch-high concrete dike. During the most recent tank integrity investigation, Innovation Plus recommended that insulation on the tank be removed to better evaluate the tank and to prevent corrosion.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit was processing waste glycol during the VSI. PRC observed that the tanks and secondary containment were in good condition with no cracks. PRC noted no evidence of release (see Photograph No. 11).
SWMU 14	**VDU 3**
Unit Description:	This unit consists of tank T-4, a 14,000-gallon-capacity steel tank installed in 1976. The unit is located on concrete that has a 6-inch-high concrete dike. Tank T-4 is located between SWMUs 9 and 15.
Date of Startup:	This unit began operation in 1976.
Date of Closure:	This unit is active.
Wastes Managed:	This unit managed used oil in the past. Currently, the unit distills oily wastewater under vacuum conditions. Wastewater removed during distillation is transferred to the WWTP (SWMU 16). Used oil recovered during distillation is further processed in VDU 4 (SWMU 15) and is then processed along with the used oil. PCB-contaminated oily wastewater was processed in this unit in September 1994.
Release Controls:	This unit is located on concrete that has a 6-inch concrete dike.

History of Documented Releases:	No releases from this unit have been documented. The tank has not been identified for remedial action in the modified consent order.
Observations:	The unit contained oily wastewater during the VSI. PRC noted some oil stains on the concrete (see Photograph No. 16).
SWMU 15	**VDU 4**
Unit Description:	This unit consists of a tank T-6, a 14,500-gallon-capacity steel tank that was installed in 1976. The unit is located next to VDU 3 (SWMU 14) and is on concrete that has a 6-inch-high concrete dike.
Date of Startup:	This unit began operation in 1976.
Date of Closure:	This unit is active.
Wastes Managed:	This unit managed used oil in the past. The unit currently distills oily wastewater. Wastewater generated in the process is pumped to the WWTP (SWMU 16). Recovered used oil is transferred to the Southeast Tank Farm (SWMU 1) for processing, along with other used oil. PCB-contaminated oily wastewater was processed in this unit in September 1994.
Release Controls:	This unit is located on concrete that has a 6-inch-high concrete dike.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit was processing oily wastewater during the VSI. PRC noted some oil stains on the uncracked concrete (see Photograph No. 17).

SWMU 16	**Wastewater Treatment Plant (WWTP)**
Unit Description:	This unit consists of the following components: one 250,000-gallon capacity concrete UST; a 10- by 10-foot building with a concrete floor; an oil-water separator; one 2,000- and one 5,000-gallon chemical storage tanks; mixing tanks; a water decant tank; a dissolved air flotation system; and the necessary piping and pumps. The system involves neutralization and flocculation with polymers to achieve treatment. Portions of this unit are located outdoors. The unit was constructed and is operated under a water pollution control permit issued by IEPA.
Date of Startup:	This unit began operation in 1942.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages wastewater generated during the various rerefining processes, LUST waters from off-site sources, and on-site storm water.
Release Controls:	This unit operates under a water pollution control permit issued by IEPA. Treated water is discharged to MWRDGC via an on-site sanitary sewer connection. Components located within the building are on a concrete floor. Components located outside do not have secondary containment.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit was processing wastewater during the VSI (see Photograph No. 18). PRC noted no evidence of release. Water on the ground which is visible in the photographs is rainwater.

SWMU 17	**Railcar Unloading Area**
Unit Description:	This unit consists of two concrete-lined pits measuring a combined length of 160 feet. Each pit is about 5-feet wide with a capacity of 11,000 gallons. The unit is located on the facility's southern boundary and runs under the railroad tracks. Access to the pits is through a 5-foot by 10-foot grate-covered opening.
Date of Startup:	This unit began operation in 1942.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages used oil that is delivered by railcars. From the pits, used oil is pumped to the Southeast Tank Farm (SWMU 1) to begin processing.
Release Controls:	This unit has no release controls.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit did not contain any used oil during the VSI (see Photograph No. 19). The condition of the underground concrete is unknown. PRC noted oil-stained soil in the area of this unit (see Photograph No. 20).
SWMU 18	**Contaminated Soil Pile**
Unit Description:	This unit consists of a soil pile measuring about 120 feet by 40 feet by about 10 feet high. The soil pile is located on the facility's southern border, near the LUST Water Holding Tanks (SWMU 19).

Date of Startup:	This unit began operation in the fall of 1993.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages contaminated soil removed from the western side of the facility property.
Release Controls:	This unit has no visible release controls. Enviropur stated in a letter report to IEPA that the contaminated soil would be placed within an earthen clay dike and would be covered with a plastic tarp to prevent runoff from coming into contact with precipitation (Enviropur 1994c).
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The unit contained approximately 1,000 yd^3 of contaminated soil during the VSI. PRC did not observe the plastic tarp or earthen clay dike during the VSI (see Photograph No. 20).

SWMU 19 **LUST Water Holding Tanks**

Unit Description:	This unit consists of tanks 1 through 6, which are vertical, steel tanks. Three tanks each have a capacity of 15,000 gallons and the other three each have a capacity of 21,380 gallons. The tanks were installed in 1962, 1976, and 1977. These tanks are located outdoors next to the Dehydrators (SWMU 3) on a concrete pad that has a concrete dike on only two of its four sides.
Date of Startup:	This unit began operation in 1962.
Date of Closure:	This unit is active.

Wastes Managed:	This unit manages LUST water, which is treated in the on-site WWTP (SWMU 16). In the past, the unit managed used oil.
Release Controls:	This unit is located on concrete that is only partially diked.
History of Documented Releases:	No releases from this unit have been documented. The modified consent order requires Enviropur to empty all the tanks in this unit; to process the tank contents through rerefinery, and to clean the tanks. According to the modified consent order, soil remediation is not required because the tanks are located on concrete.
Observations:	PRC observed these tanks on September 2, 1994. PRC observed that one of the tanks was in poor condition and that the concrete was in good condition. The concrete dike, however, did not extend completely around the unit (see Photograph No. 21).

4.0 AREAS OF CONCERN

PRC identified two AOCs during the PA/VSI.

AOC 1 **Contaminated Soil and Groundwater**

As discussed in Section 2.4, releases to soil on groundwater have occurred from spillage or leakage that occurred throughout 5 decades of operation at the facility. This contamination is currently being remediated in accordance with a 1993 modified consent order issued by the Attorney General. IEPA is overseeing the remediation of AOC 1. PRC observed the area of AOC 1 which has been excavated (see Photographs No. 22 and 23). PRC noted that rainwater had accumulated in the excavated area.

AOC 2 **Former Gasoline UST**

As discussed in Section 2.5, a release to soil was discovered during a 1991 removal of a 1,200-gallon gasoline UST. No further information regarding the nature or extent of the release was found during the PA. PRC did not observe this AOC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 19 SWMUs and two AOCs at the Enviropur facility. Background information on the facility's location; operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3, located at the end of this section, summarizes the SWMUs and AOCs at the facility and the recommended further actions.

SWMU 1 **Southeast Tank Farm**

Conclusions: The Southeast Tank Farm stores used oil in 18 vertical tanks. The unit is located outdoors and has no release controls. The unit has a history of documented releases. The potential for release to groundwater, surface water, on-site soil, and air is high.

Recommendations: PRC recommends that ongoing remediation continue under the direction of IEPA as outlined in the modified consent order.

SWMU 2 **Atmospheric Distillation Unit (ADU)**

Conclusions: This unit consists of two vertical tanks, T-1 and T-2, where used oil is distilled. The 10,500- and 15,500-gallon capacity tanks are located outdoors on undiked concrete with no secondary containment. The tanks do not have overfill alarms. No releases from this unit have been documented. The potential for release to groundwater, surface water, on-site soils, and air is moderate.

Recommendations: PRC recommends that IEPA require the unit to have adequate secondary containment and overfill alarms. PRC recommends soil sampling around the unit to determine if a release occurred in the past.

SWMU 3 **Dehydrators**

Conclusions: This unit consists of two 15,000-gallon steel tanks located outdoors on undiked concrete with no secondary containment. The tanks manage used oil and in the past, removed water from oil. No releases from this unit have been documented. The potential for release to all environmental media is moderate.

Recommendations: PRC recommends that the unit have adequate secondary containment and overfill alarms. PRC recommends soil sampling be conducted around the unit to determine whether a release occurred in the past.

SWMU 4 **Oil Distillate Holding Tanks**

Conclusions: This unit consists of nine vertical aboveground tanks that manage oil distillate. Each cone-bottomed tank has a capacity of 12,000 gallons. All tanks are located over gravel fill. The potential for release to all environmental media is high.

Recommendations: PRC recommends that ongoing remediation continue under the direction of IEPA as outlined in the modified consent order.

SWMU 5 **Filter House**

Conclusions: This unit consists of an aboveground building and an adjacent roll-off box. The building is located over fill material that is stained with oil. The building has a concrete block dike under the aboveground building. The uncovered roll-off box is located on a concrete pad. No releases from this unit have

been documented. The potential for release to groundwater, on-site soil, and air is high. The potential for release to surface water is low.

Recommendations: PRC recommends that soil sampling in this area be conducted for possible inclusion with the other ongoing remedial activities at the facility. The roll-off box should be covered to prevent waste clay from becoming airborne.

SWMU 6 **Blend Building**

Conclusions: The Blend Building houses 26 onground vertical tanks in which base oil and additives are blended. The tanks are located indoors on concrete that has four floor drains. The drains are connected to the on-site WWTP (SWMU 16). No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 7 **Blend Building Polishing Filter**

Conclusions: This unit consists of one filter press that is located indoors on concrete. The floor of the unit has drains that are connected to the WWTP (SWMU 16). No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 8 **Waste Glycol Storage Tank**

Conclusions: This unit consists of tank 412, which is located outdoors on diked concrete. The steel tank has a capacity of 21,380 gallons. The tank manages incoming waste glycol. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 9 **Vacuum Distillation Unit (VDU) 1**

Conclusions: This unit consists of tank T-5, a 14,500-gallon steel tank that is located outdoors on diked concrete. The unit distills used oil under vacuum conditions. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 10 **Water-Glycol Mixture Holding Tank**

Conclusions: This unit consists of tank 403, a 21,380-gallon-capacity steel tank located outdoors on diked concrete. The tank is used to hold a mixture of water and glycol during processing. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 11 **Glycol Holding Tank**

Conclusions: The Glycol Holding Tank is tank 20, an 8,000-gallon steel tank located outdoors on diked concrete. The unit manages recycled glycol. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 12 **Oily Wastewater Holding Tanks**

Conclusions: This unit consists of tanks 324 and 325, both of which have a 21,380-gallon capacity and are located on diked concrete. The unit manages incoming oily

wastewater. PCB-contaminated oily wastewater was managed in this unit in September and October 1994. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends that the unit be decontaminated to remove PCB contamination.

SWMU 13 **VDU 2**

Conclusions: VDU 2 consists of tank T-3, a 14,000-gallon steel tank located outdoors on diked concrete. The unit distills waste glycol under vacuum conditions. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 14 **VDU 3**

Conclusions: VDU 3 consists of tank T-4, a 14,000-gallon steel tank located outdoors on diked concrete. The unit distills oily wastewater under vacuum conditions. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends that the unit be decontaminated to remove PCB contamination.

SWMU 15 **VDU 4**

Conclusions: VDU 4 consists of tank T-6, a 14,500-gallon capacity steel tank that is located on diked concrete. T-6 distills oily wastewater under vacuum conditions. No releases from this unit have been documented. The potential for release to all environmental media is low.

Recommendations: PRC recommends that the unit be decontaminated to remove PCB contamination.

SWMU 16 **Wastewater Treatment Plant (WWTP)**

Conclusions: This unit consists of the following components: a concrete UST, piping, pumps, an oil-water separator, chemical storage tanks, mixing tanks, a water decant tank, and a dissolved air flotation system to neutralize wastewater and to promote flocculation with polymers. The unit was constructed and is operated under a water pollution control permit issued by IEPA. No releases from this unit have been documented. The potential for release to all environmental media is low. Treated water is discharged to MWRDGC via an on-site sanitary sewer connection.

Recommendations: PRC recommends no further action for this SWMU at this time.

SWMU 17 **Railcar Unloading Area**

Conclusions: This unit consists of two concrete-lined pits measuring a combined length of 160 feet. Each pit is about 5-feet wide with a capacity of 11,000 gallons. The unit is located on the facility's southern boundary and runs under the railroad tracks. Access to the pits is through a 5- by 10-foot grate-covered opening. The unit manages used oil and has no release controls. PRC noted oil-stained soil near this unit. The condition of the underground concrete pits is unknown. The potential for release to all environmental media is moderate.

Recommendations: PRC recommends that the condition of the concrete pits be assessed to determine if used oil can be released to environmental media. PRC also recommends that soil sampling be conducted to determine the extent of the release observed during the VSI.

SWMU 18 **Contaminated Soil Pile**

Conclusions: This unit consists of about 1,000 yd^3 of contaminated soil. The soil is uncovered and is subject to weathering. PRC did not observe that the soil was on a material that would prevent runoff or leaching. The potential for release to all environmental media is moderate.

Recommendations: PRC recommends that remediation continue at the facility. The soil pile should be on a confining material and be kept covered to prevent runoff and releases to the air.

SWMU 19 **LUST Water Holding Tanks**

Conclusions: This unit consists of tanks 1 through 6. Three tanks have a 15,000- capacity and the other three can each hold 21,380 gallons. The tanks are located on concrete. No releases from this unit have been documented, but the modified consent order requires that the tanks be emptied and cleaned. The potential for release to all environmental media is low.

Recommendations: PRC recommends that ongoing remediation continue as outlined in the modified consent order. PRC also recommends that secondary containment be required for this unit.

AOC 1 **Contaminated Soil and Groundwater**

Conclusions: This AOC consists of contaminated soil and groundwater that resulted from spillage and leakage throughout the past 5 decades of operations. The potential for release to surface water is high because the Des Plaines River is downgradient from the facility. The potential for release to air is low because the rerefined oil should not contain volatile hydrocarbons.

Recommendations: PRC recommends that ongoing remediation continue as outlined in the modified consent order.

AOC 2 **Former Gasoline UST**

Conclusions: This AOC consists of contaminated soil discovered during removal of a 1,200-gallon gasoline UST. The potential for release to groundwater and surface water is high because depth to groundwater is 13 feet bgs and groundwater flows toward the Des Plaines River.

Recommendations: PRC recommends that soil samples be collected in this AOC to determine the nature and extent of contamination.

TABLE 3

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Southeast Tank Farm	1942 to present	Soil and groundwater contamination	Continue remediation according to modified consent order
2. Atmospheric Distillation Unit (ADU)	1942 to present	None	Require secondary containment, overfill alarms, and collect soil samples
3. Dehydrators	1942 to present	Soil contamination	Require secondary containment, overfill alarms, and collect soil samples
4. Oil Distillate Holding Tanks	1942 to present	Soil and groundwater contamination	Continue remediation according to modified consent order
5. Filter House	1942 to present	Soil contamination	Collect soil samples and cover roll-off box
6. Blend Building	1942 to present	None	None
7. Blend Building Polishing Filter	1942 to present	None	None
8. Waste Glycol Storage Tank	1942 to present	None	None
9. Vacuum Distillation Unit (VDU) 1	1942 to present	Release of lard oil onto ground	None
10. Water-Glycol Mixture Holding Tank	1969 to present	None	None
11. Glycol Holding Tank	1969 to present	None	None
12. Oily Wastewater Holding Tanks	1969 to present	None	Decontaminate unit to remove PCB contamination

TABLE 3 (Continued)

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
13. VDU 2	1957 to present	None	None
14. VDU 3	1976 to present	None	Decontaminate unit to remove PCB contamination
15. VDU 4	1976 to present	None	Decontaminate unit to remove PCB contamination
16. Wastewater Treatment Plant	1942 to present	None	None
17. Railcar Unloading Area	1942 to present	Soil contamination	Assess condition of concrete pits and collect soil samples to determine extent of soil contamination
18. Contaminated Soil Pile	1993 to present	None	Require a cover over and a confining barrier under the soil pile
19. LUST Water Holding Tanks	1962 to present	None	Continue remediation according to modified consent order and require secondary containment

AOC	Dates of Operation	Evidence of Release	Recommended Further Action
1. Contaminated Soil and Groundwater	1942 to present	Soil and groundwater contamination	Continue remediation according to modified consent order
2. Former Gasoline UST	Unknown to 1991	Soil contamination	Collect soil samples to determine the nature and extent of contamination

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IEPA. 1993d. Letter Regarding Infeasibility of Bioremediation Technology. From Gregory Dunn. To Lowell Augenbaugh, Enviropur. November 18.

IEPA. 1993e. Inspection Report. December 10.

IEPA. 1994a. Letter Regarding Status of Enviropur. From Greg Dunn. To Susan Horn, Assistant Attorney General. January 26.

IEPA. 1994b. Enforcement Decision Group Memo. January 31.

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IEPA. 1994d. Memorandum Regarding Request to Construct Unloading Pad. From Sue Doubet, IEPA. To Cleanup Objectives Review and Evaluation Group. June 21.

IEPA. 1994e. Water Pollution Control Permit No. 1994-EN-0552. From Thomas McSwiggin, Manager. To Enviropur. June 22.

Motor Oils Refining Company (Moreco). 1980. Part A Permit Application. November 17.

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Office of the Illinois State Fire Marshall. 1991. Permit for Removal of Underground Storage Tanks (UST). From W. Dale Tanke, Safety Engineer. To Enviropur. May 1.

PRC Environmental Management, Inc. (PRC). 1994a. Record of Telephone Conversation. Between Judith Wagner, PRC and Ester, McCook Post Office. August 17.

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DOI. 1994. Letter Regarding Absence of Endangered Species Along the Des Plaines River. From Benjamin Tuggle, Field Supervisor. To Judith Wagner, PRC. November 21.

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EPA. 1983. Letter Regarding Part A and Part B Permit Withdrawal. From EPA. To Moreco. February 27.

The White Oak Group. 1992. Phase 2 Subsurface Investigation Report. February 24.

VISUAL SITE INSPECTION SUMMARY

Enviropur Waste Refining and Technology, Inc.
(formerly Motor Oils Refining Company)
7601 W. 47th Street
McCook, Illinois 60525
ILD 000 646 786

Date:	July 14 and September 2, 1994
Primary Facility Representative:	Frank Lappin, Plant Manager
Representative Telephone No.:	708-442-6000
Additional Facility Representatives:	Bo Parrish, Environmental Engineer
Inspection Team:	Mary Wojiciechowski, PRC Judith Wagner, PRC
Photographer:	Judith Wagner, PRC
Weather Conditions:	Scattered rain, 70 °F
Summary of Activities:	The visual site inspection (VSI) began at 9:25 a.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents. The VSI tour began at 12:40 p.m. PRC inspected the Enviropur laboratory and Blend Building (SWMU 6). PRC observed two filter presses that are used for final filtering in the Blend Building Polishing Filter (SWMU 7). PRC then observed the tanks in the Southeast Tank Farm (SWMU 1). The south railroad spur and its associated concrete sumps, pumps, and piping of the Railcar Unloading Area (SWMU 17) were inspected. PRC noted soil staining in this area. PRC then observed the Contaminated Soil Pile (SWMU 18), which resulted from the facility's remedial action. Then, PRC observed the aboveground Filter House (SWMU 5) and the roll-off box used to collect the nonhazardous waste filter cake. PRC noted an oily film over all structures in this area and an accumulation of oil in the secondary containment system. PRC inspected the slurry tub where partially processed used oil is mixed with diatomaceous earth. PRC observed the Atmospheric Distillation Unit (SWMU 2), the Dehydrators

(SWMU 3), and the Waste Glycol Storage Tank (SWMU 8). Other process tanks observed included the Vacuum Distillation Unit (VDU) 1 (SWMU 9), VDU 2 (SWMU 13), VDU 3 (SWMU 14) and VDU 4 (SWMU 15). PRC observed the Water-Glycol Mixture Holding Tank (SWMU 10) and the Glycol Holding Tank (SWMU 11). PRC observed the asphalt tank. Finally, PRC inspected the on-site Waste Water Treatment Plant (SWMU 16).

The tour concluded at 1:45 p.m. after which the inspection team held an exit meeting with facility representatives. The VSI was completed and the inspection team left the facility at 2:00 p.m.

On September 2, 1994, PRC returned to the Enviropur facility to visually inspect and photograph the Leaking Underground Storage Tank (LUST) Water Holding Tanks (SWMU 19) and the area of the Contaminated Soil and Groundwater (AOC 1) from which soil has been excavated. PRC was on site from 9:10 a.m. until 9:30 a.m. and met with Lowell Augenbaugh, Environmental Engineer.

APPENDIX A

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

(14 Pages)

Photograph No. 1 Location: SWMU 1
Orientation: Southeast Date: July 14, 1994
Description: Tanks in the Southeast Tank Farm. Dike in photograph is around the unloading pad, not the tank farm.

Photograph No. 2 Location: SWMU 1
Orientation: Southeast Date: July 14, 1994
Description: Tanks numbered 128 and 146. Concrete dike is a release control for the unloading pad.

Photograph No. 3 Location: SWMU 2
Orientation: East Date: July 14, 1994
Description: Tanks T-1 and T-2 that are used for atmospheric distillation.

Photograph No. 4 Location: SWMU 3
Orientation: South Date: July 14, 1994
Description: Dehydrators are located behind the tank car. The tank on the left is the "old" dehydrator; the reddish color tank to the right is the "new" tank.

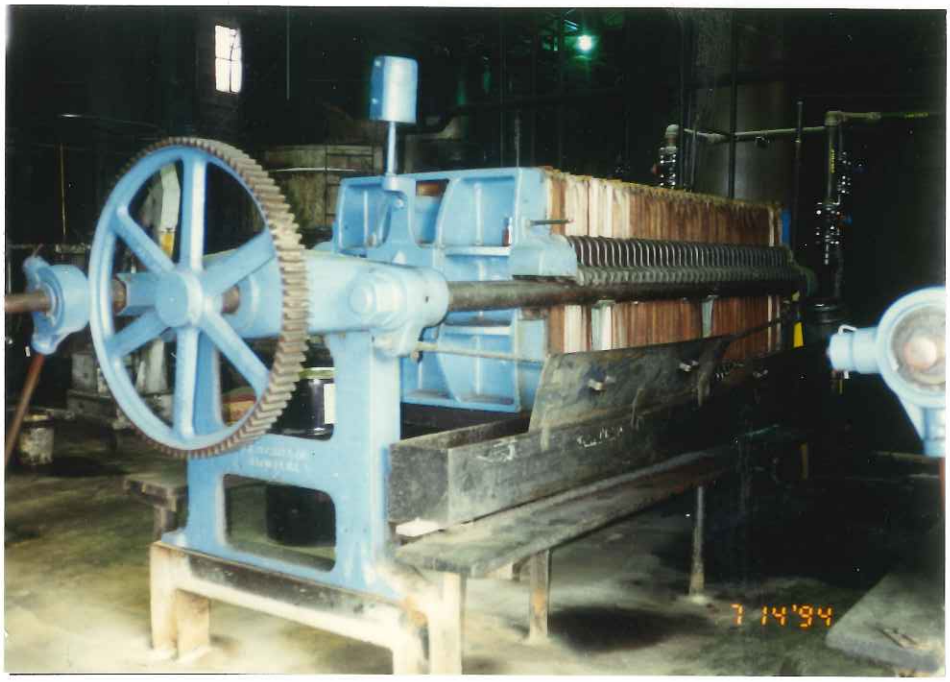
Photograph No. 5 Location: SWMU 4
Orientation: East Date: July 14, 1994
Description: Cone-bottomed, aboveground, oil distillate holding tanks on eastern border of the facility.

Photograph No. 6 Location: SWMU 5
Orientation: East Date: July 14, 1994
Description: Uncovered roll-off box for waste clay. Building on right is the aboveground Filter House.

Photograph No. 7 Location: SWMU 5
Orientation: East Date: July 14, 1994
Description: Inside the Filter House showing the open-grate floor.

Photograph No. 8 Location: SWMU 6
Orientation: West Date: July 14, 1994
Description: View of tank 201 inside the Blend Building.

Photograph No. 9 Location: SWMU 6
Orientation: East Date: July 14, 1994
Description: View of tanks 241 and 252 inside the Blend Building.



Photograph No. 10 Location: SWMU 7
Orientation: Southwest Date: July 14, 1994
Description: Polishing filter press; note stains on the concrete floor.

Photograph No. 11
Orientation: East
Location: SWMUs 8 and 13
Date: July 14, 1994
Description: Green tank in right background is the Waste Glycol Storage Tank. Tank on left is Vacuum Distillation Unit (VDU) 2 (SWMU 13).

Photograph No. 12
Orientation: Upward
Location: SWMU 9
Date: July 14, 1994
Description: Tank T-5, used to distill used oil.

Photograph No. 13 Location: SWMU 10
Orientation: East Date: July 14, 1994
Description: Green tank is tank 403, the Water-Glycol Mixture Holding Tank (SWMU 10).

Photograph No. 14 Location: SWMU 11
Orientation: Northeast Date: July 14, 1994
Description: Tank 20 that holds recycled glycol.

Photograph No. 15 Location: SWMU 12
Orientation: North Date: July 14, 1994
Description: Tanks 324 and 325 that manage oily wastewater.

Photograph No. 16 Location: SWMU 14
Orientation: Upward Date: July 14, 1994
Description: Tank T-4 used to distill oily wastewater.

Photograph No. 17 Location: SWMU 15
Orientation: East Date: July 14, 1994
Description: Tank T-6 used to distill oily wastewater.

Photograph No. 18 Location: SWMU 16
Orientation: Northeast Date: July 14, 1994
Description: Buildings, associated tanks, and piping that compose the WWTP; puddles on ground are rainwater.

Photograph No. 19 Location: SWMU 17
Orientation: Downward Date: July 14, 1994
Description: Grate over opening to concrete used oil collection pits.

Photograph No. 20 Location: SWMUs 17 and 18
Orientation: West Date: July 14, 1994
Description: Uncovered contaminated soil pile; lower right corner shows dark-colored soil located near SWMU 17.

Photograph No. 21 Location: SWMU 19
Orientation: West Date: September 2, 1994
Description: Tanks 1 through 6 that hold leaking underground storage tank (LUST) water.

Photograph No. 22 Location: AOC 1
Orientation: West Date: September 2, 1994
Description: Area where contaminated soil has been excavated near the western border; water in excavated area is rainwater.

Photograph No. 23 Location: AOC 1
Orientation: West Date: September 2, 1994
Description: Area where contaminated soil has been excavated near the western border; water in excavated area is rainwater.

APPENDIX B

VISUAL SITE INSPECTION FIELD NOTES

(27 Sheets)

Contents

Field Logbook No. _____

Name _____ **Location** _____

(Continued from previous page)

Project	Notes Taken	Last Page Used
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No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	

Field Logbook No. _____ **Date** 14 July 04

Project No. 270-205

Project Name Enviroplex Waste Refining and Technology, Inc. Melrose Park, IL

9:25 am

Facility Rep: Bo Parrish

Envi Eng.

Weather: scattered rain, 70F

PRE: Mary Wojciechowski

Indy Wagner

Ownership:

Began operations 1940?

Company began 1929

1942 - Motor Oils Refining Co.

Generic permits - 1990

1. Waste oil:

crank case

hydraulic oil

gear lube

→ for finished products only

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur

2. Glycols - accepted
- remove H2O add additives

3. - Oily Water waste
or coolant waters
- remove H2O → to MSD
rest to product

Facility Rep:
Frank Lappin, V.P. Oper.

Part B submitted
for waste oil re-refining
- exempt because of
recycling about 198
- all Part B processing
stopped

HW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur PA/US

- "Received waste only in
compliance w/ IL permits"

- Water Permits - H2O from
USTs

Ownership:
- Herb Goetsch to '70s
- Beatrice/Esmark - Early
70's to 1983
- Investor group purchased
facility '83

- Enviropur W R & C
Publically held
NMSDAQ traded

HW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur

1505 Wacker - HQ
for Enviropur
#675, Chicago, IL

Process/
Stream #1
Recycling of used oils
see map
Waste arrives bulk
- truck or T.C.
pre approved by labs

TCLP analysis if
50% water or more

Glycol - any % do TCLP
& other analysis
- Generic permit

SW

4

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur, IRA/US1

each load weighed
- Non-haz manifest for
all shipments

- Aliquot taken from
bulk load. To lab

(TCLP run every 5 yrs)
BS+W - bottom sediment
Flash. + water
PCB
Chlorine
Sulfur
Inorg.

Reject or accept

SW

5

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur PA/VSI

Glycols 403 + ~~415~~ 412. HW

API 650 = Tank specs

~~Oily~~

Oily Waste Water

324 + 325 ⊖ HW

~~Oily Waste~~ HW Waste Oil tanks

122-133

Waste Oil Process

- feed stock for refining
- Atmospheric distillation

450°F

to remove: light boiling HCs

HCs condensed

un-distilled product

- Vacuum distillation

process to separate

HW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur ... condensed ⇒ base oil

lube products & asphaltic products

1,050°F

Residuel = bottom sold as asphalt extender

Lube oil to clay treatment. Acid activated diatomaceous earth to clear. = Base oil is product → Color removal by adsorbtion

Sold as is or blended

Waste clay 1% oil

Landfilled as now at

① Setter's Hill, Aurora

② County Envir, Pontiac

HW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviroper

③ Land 4 Lakes, Calumet City

Flow diagrams received

Glycol process

After Lab approval
Distilled:

Contaminant: 1-2% oil
oil becomes still bottom ⇒
used in re-refinery

H_2O ≅ 50% removed
at BP
Condensed H_2O to WWTP
>250 ppm → re-distilled

8 JLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviroper - PA/US1

Glycol now to BP
When glycol = 100%
of condensed fluid
- this becomes a product
99% sold as glycol, also (1%)
as deicer.

Still Bottoms ⇒ oil

Oily Waste Water

90% H_2O 5-6% oil
Emulsified

Emulsion to distillation
tower. H_2O off
1st → to WWTP

9 JLW

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name Enviropur.

oil continuously skimmed off

15,000 gpd of emulsion

50,000 gpd oil

varies Depends on H20 - Glycol

if 90/10 H20/Glycol

~~500~~ 25 gpm

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name Enviropur. PA/USI

LUST Wastes:

1-2% HC

97-98% H20

treated in WWTP

under req. of HSD

- No storm sewers on-site. ~~To~~ which lead off-site

All on-site waste water to API separator by UG pipes (250 gallon) baffled tank

pH stabilization

Cationic polymer at 8.5 pH

↳ Aluminum sulfate

H2S contaminant — from thermal breakdown of ZDDP additive

Field Logbook No. ______ Date ______

Project No. ______

Project Name ______ (12)

bottoms → feed stock
for oil process

Oily WW
sample screening
~~[illegible]~~
heavily emulsified
(90% water 5 or 6%
oil)

→ distillation
tower
water off first
↳ condensed
↳ WWTP
↳ oils top of
tower &
fed to oil

[initials] 7/14

Field Logbook No. ______ Date ______

Project No. ______

Project Name ______ (13)

Process

can process up to
50 Kgal oil / day
15 Kgal OWW
20-25 Kgal glycols } depends
5 or 6 Kgal " " } on
2 Kgal " " } water
content

LUST waters
1 - 2% HC & water
not emulsified
↳ right to WWTP
regulated by
MWRGCD
Sanitary sewer
discharge

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

14

rain water } API
surface runoff } separator
Process water
API separator
25000 gal
- Skimmed
- pH adjustment to 8
- Polymer for coagulation to neutralize H_2S
- Fecl Rx H_2S (removed PPT it's dry harmless
- anionic polymer for flocing
- DAF unit air sparge attach to floc particles to top HC in top

MW 7/14

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

15

lower path of DAF → MSD top decanted → separator → oil to process

NO storm sewer runoff Process water etc. all to WWTP. except for potable

MW 7/14

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

(16)

(1) Clay filter cake
154 lb/week
non haz to
landfill

(2) asphalt vac
dist unit sold
as Product

- Clay Filter cake
to [redacted] Livingston
Landfill in Pontiac
IL

MW 1/2/14

16

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

(17)

(3) parts cleaner
custom blended oils
non haz
mineral spirit
20 gal once
a month
Peoria, IL

BTL [redacted] IEPA
found manifests of
1CO22 → load
never came in.
it went to
Springfield instead

MW 1/2/14

17

Fie ogbook No. __________ Date __________

Project No. __________

Project Name __________

(18)

Water Inspections
- none lately
- no NPDES

Air Inspections
- none lately
- annual emmision
- 1 permit - process VOHS

Consent Decree
- awaiting
- analytical data
- MW's & lift stations in
- alternative means to remediation

Field Logbook No. __________ Date __________

Project No. __________

Project Name __________

(19)

- will use soil desorption on site ~~& send~~ ~~of~~ burn ~~here~~ & if OK remain as part of fill

- sampling of MW's 6 mos ago sampled we might have data
- in tech report

- a couple

- fill - pressoda scrubber
- storage tank 400 - Lube oil
- used glycol & oil processes

Field Log k No. ______ Date ______

Project No. ______

Project Name ______

(20)

USTs
removed
in mid 1980s
gasoline
✓ get removal (R)
IEPA approval
etc.

- general direction of
gw flow - east

- all water from
city

- DesPlaines River

MW 7/14

Field Logbook N ______ Date ______

Project No. ______

Project Name ______

(21)

- site 6.2
- employees: ~35
- 3 shifts → 7 days/week

- security
  - guards
  - 3 people on site @ all times
  - gates closed
  - 6 ft high chain link fence

MW 7/14

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur

Fast Mix → slow mix
to improve flocculation

Dissolved air flotation
tank (like air sparge)
HCs removed here by
on floc
decantation

Class "C" operators
Operations:
24 Hours - 7 days for
re-refiner

Sewers to MSD

SLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur PM/VSI

only waste to off-site

Clay: 15-30 yd³/wk
IL manifested
as solid waste

WWTP - Sludge generated
back to re-refinery

Many - review day
manifests

Glycol + oily waste
water - added
since Part B
use began

Emulsions - only in
last 5 years

SLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviropur

1993 Inspection:
Parts Washer:
by Custom Blended Oil
Mineral Spirits - not managed on-site
20 gal - every ~~2-3~~ SLW months
In Peotone

1989 Inspection:
K022 waste acceptance
BTL Results
Rep states: Never
actually accepted by
or shipped to ~~by~~ SLW Enviropur
"Dropped by IEPA"

Consent decree being
negotiated at that
time.

SLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name PA/US

IEPA water division —
permitting only
MSD enforces

Air — for boilers, pstills,
3-4 permits

Loves Dunn — remedial
project
- Soil removal on west

GW monitoring:
frequency unknow
Weston = contractor
- Soil desorption +
landfilling
Desorption will occuring
on-site by burning
+ left on-site

SLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Envirop...

Last sampling of GW
6 months ago

Air Permits
- 1 - Filter press odor scrubber tank
- 2 - ~~Tank~~ #400
- 3 - Pipestills + flare + other equip Glycol + oil process

~~SLW~~

UST -
gas tank removed
about 1987-'89
- Requested ~~paper~~ SLW reports

SLW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name PA/US...

Facility covers
6.2 acres

Bedrock ~ 30 ft bgs
Clay bed

GW flow - SE direction

Chicago H2O - drinking
+ process

Des Plaines River -
nearest surface H2O

Employees: 35 people
3 shifts 8/day
7 days/wk

SLW

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name Enviropak

Security:
minimum of 3 people
on-site at all times.
6' ~~tall~~ high chain link
fence
- Gates at tracks &
drive

11:00 am off-site
Lunch Break

12:30p On-site 80-85°F

Questions regarding Map:

Dehydrator -
Atmospheric Distill.
of Light HCs

JLW

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name PALVSI...

to dehydrator

Grease Shack —
now holding / drum
storage area
- packed grease in ~~pail~~ past

#2 Fuel + H2O —
Diesel product from
Atmospheric Distill
Light oil = dust ~~supp~~ binder

Proposed Bldg:
office w/ packaging
in Qt to gal sizes
- Contract packaging now

JLW

Field Logbook No. ______ Date 7/14/94

Project No. ______

Project Name Enviropur

Feed tanks (40) to be placed on proposed 2° containment Structure

Lab —

Lab packs

Filter House - clay treatment

LUST Waters — holding tanks #1-6

Cone bottom

"L" shaped pit near dehydrator

JLW

Field Logbook No. ______ Date 7/14/94

Project No. ______

Project Name PA/Ushiv...

T-6 manages emulsion

12:40 Facility Tour

Lab - aliquots held for 6 months then dumped to process

Lab packs - done by Detrex, Cleveland, Ohio

Photo #1 West in blending Bldg filter press for final filtering

JLW

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name Enviropur

Photo 2 → Blending
photo 3 Bldg

Photo 4 South/East
Set Tank #'s

Photo 5 South East
Tank #'s 28 + 144

Photo 6 S Downward
Concrete pits
South RR spur
4" berm

East + West Pits
11,000 gallon Each

Field Logbook No. _____ Date 7/14/04

Project No. _____

Project Name PAVSL...

From TC to pits or
directly to pump.
- Concrete construction
next to storage tanks

Photo 7 West
Soil pile

Photo 8 East
↑ Filter House
Roll off next to

Photo 9 East
Filter press room
- Grate floor open
to 2° containment
Concrete w/ 3' concrete
block berm

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name Enviroplex

Slurry Tub
Photo #10 East
~5000 gal capacity
- to mix in diatomaceous earth

Atmospheric Distill

Photo 11 East

Photo 12 South
Dehydrator
#1 - red "new"
#2 - on left of red "old"

Photo #13 SE
Tank 403
Glycol Storage

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name PAUSH

Photo 14
Vaccum Tower in
W/ Film Evaporators
behind

Photo 15 SWest
Asphalt tank

Photo 16 East
Distillation Condensate

Photo 17 East
Glycol Distillation
Green tank on
right #412

Field Logbook No. _____ Date _____

Project No. _____

Project Name Enviroplex

Photo 18 North
Glycol/Condensate
Storage #20
on concrete pad
6" berm
good condition
JRW

Photo 18 19 North
Tanks 324+325
EW Distillation
Holding Tanks

2° Cont - concrete pad
12" berm

JRW

Field Logbook No. _____ Date 7/14/94

Project No. _____

Project Name PANTEX

Photo 20 East
T-6 next to T-4

Photo 21 T-4
upward

Photo 22
T-5
mixing w/ Filter
Media

Natural Gas
fired heaters
throughout facility

JRW

Field Logbook No. _____ Date 7/14/94

Project No. 070-R05001004 FI

Project Name Enviropur PA/VSI

Photo #23 North WWTP area

1:45 End Tour

1992 name change to Enviropur

- Wrap-up meeting

Off-site 2:00 pm

SLW

Field Logbook No. _____ Date 9/2/94

Project No. 070-R05001004 FI

Project Name Enviropur PA/VSI

Enviropur

On-site: 9:10 am

Indy Wagner, PRC

Sunny, 70°F, Calm

Rep: Lowell Augenbaugh

Observed Tanks 1-6 on South side

- 18" + 4" berm on North + ~~west~~ ~~east~~ sides of concrete pad - no berm on ~~east~~ + South.

Photo #1 - West Tanks 1-6

Photo #2 SW West border, excavated

SLW

Field Logbook No. ______ Date 9/2/94

Project No. 070-20500104 FI

Project Name Enviropur

area

Photo#3 NW

excavated area

- water from recent

rains

Soil: landfill or

thermal treatment

PRC off-site

9:30 am

JLW

Field Logbook No. ______ Date ______

Project No. ______

Project Name ______

Field Logbook No. _____ Date 9/2/94

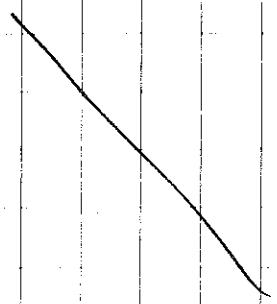
Project No. 070-20500104 FI

Project Name Enviroprex

area
Photo #3 NW
excavated area
- water from recent
rains

Soil: landfill or
thermal treatment

PRC off-site
9:30 ans

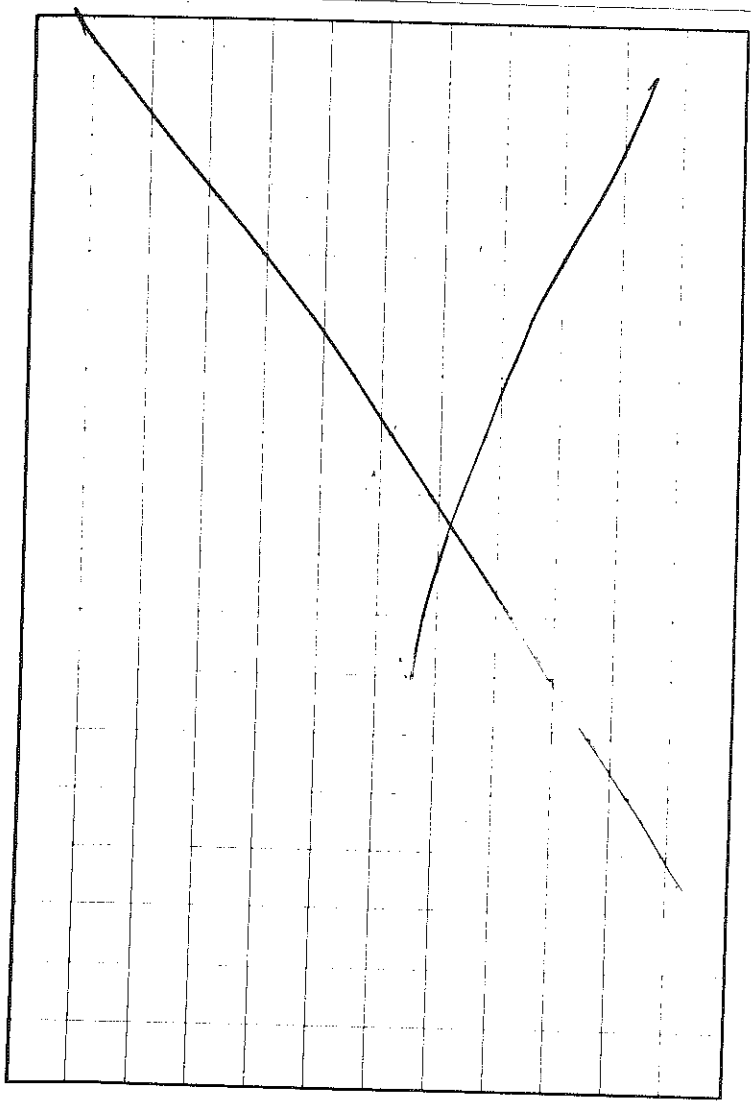


HW

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____



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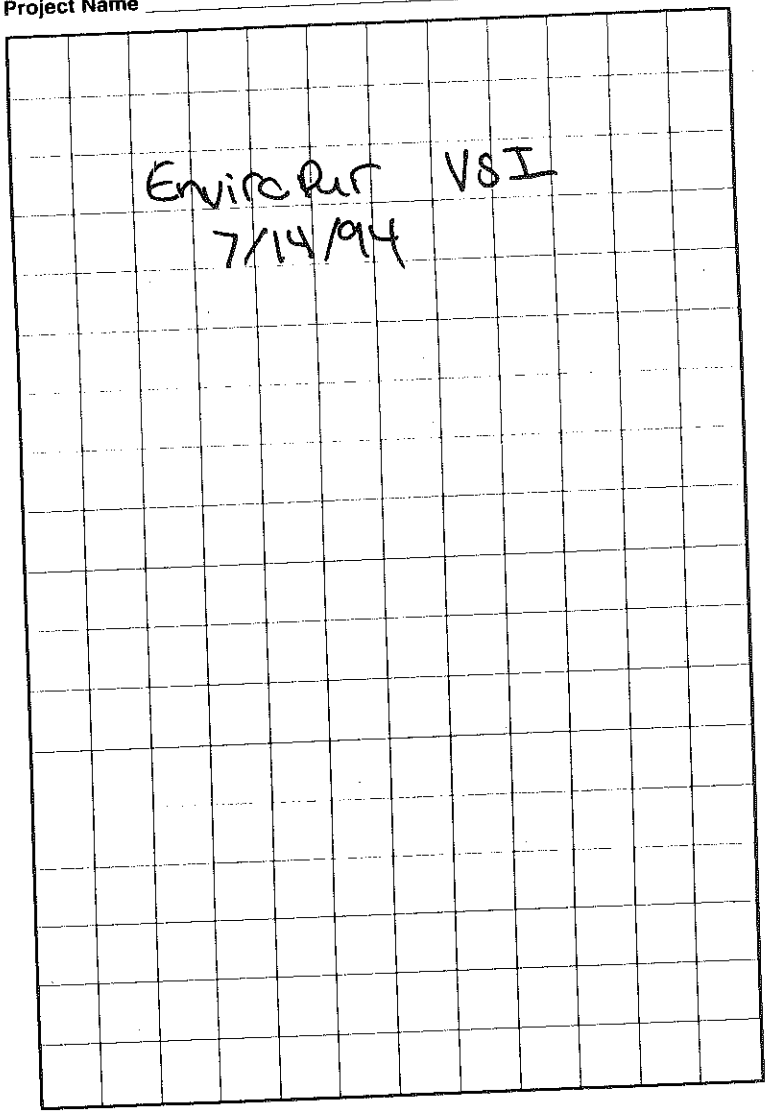
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	
No.	Date	
Name	Name	

Field Logbook No. _____ **Date** 7/14

Project No. _____

Project Name _____



Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

(2)

① operations History
① waste oil
crankcase
hydraulic
lube
② glycols

refining: selling
finished ~~Process~~ Product

③ oily waters

MW 7/14

2

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

(3)

Early 1980s filed
Part B because
of anticipated
regulation of
oil waste.

operations as refinery
began in ~1942
L> as Motor Oils
refining company
(MORCO) - Herb Goeth

In 1970s Beatrice
/ESmark corporate

MW 7/14

3

Field Logbook No. ______ Date ______

Project No. ______

Project Name ______

1983 8 investors (4)
bought from
Esmark

~~Petro~~

Envirapur Waste
Refining & Technology
Inc. In Chicago
Il.

PROCESS
1 recycle Oil
2 " " glycols
3 " " Oily waters

MW 7/14

Field Logbook No. ______ Date ______

Project No. ______

Project Name ______

(5)

- Everything comes in Bulk. Tank or Railcar
- pre approved by Lab
- TCLP if over 50%
- 50% Oil content
- State of Il nonhaz manifest
- [illegible] is against Master list
- aliquot taken from car or truck numbered & [illegible]ed in lab
- oily ww TCLP good for 5 yrs
- BSW Cl [illegible]
  flash S
  PCBs inorganics

MW 7/14

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

BSaw (Bottom Sediment & Water)

Lab will run test if passed then load is accepted

* glycols incoming 403 & 412

all tanks built to API 650 specs

* oily ww incoming 324 & 325 - feed tanks

mw/7/14

Field Logbook No. _____ Date _____

Project No. _____

Project Name _____

* waste oil incoming 122 to 133

waste oil Process Feed tanks to

- atmospheric distillation (heat to 450°F remove high ends that will increase flash of finished product. BPs > 450°F liberated as vapors)
- Vapors → condenser → stored - base oil
- vaccumm distilation tower → asphalt 1050°F (anything

mw

Field Logbook No. ____________ Date ________

Project No. ____________

Project Name ____________

(8)

will not vaporize
remains as bottoms
& sold to asphalt
industry.

Lube oil → clay
treatment unit
for bleaching
becomes base
of everything
blended or
sold as is

waste clay nonhaz
landfilled
Settlers Hill
county Environmental
Land & Lakes

[illegible]

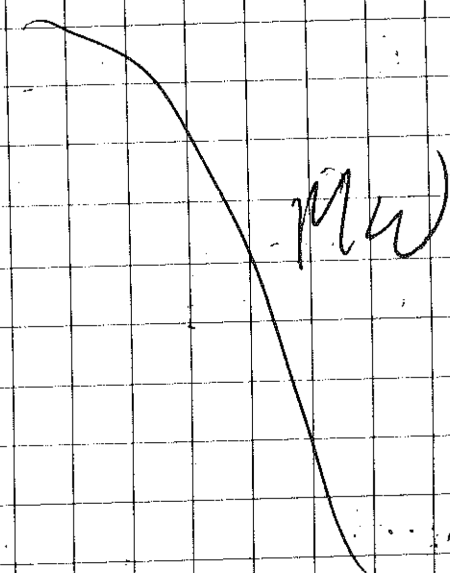
Field Logbook No. ____________ Date ________

Project No. ____________

Project Name ____________

(9)

Vacumm distillation
vapors → condense
→ stored → base
oil



[illegible]

Pontiac
-cal city not for some time

Field Logbook No. ______ Date ______
Project No. ______
Project Name ______

(10)

Glycols
Same incoming
Process

all distilled
tight specs on
incoming stuff
because sold
as finished
Products

Feed Tanks
1 to 2% oil on top
but glycol vaporizes
at lower temp
than oil. oil
becomes bottoms

MW 7/14

Field Logbook No. ______ Date ______
Project No. ______
Project Name ______

(11)

Vaccum dist
- water off first
↳ condensed
↓ if 250 ppm
or more glycol
back to tower
- non glycol / off
↳ condensed
batch distilled
until 100%
glycol → used
in blended
antifreeze
or ethylene
glycol sold
as ingredient
for other stuff
(like runway deicer

MW 7/14

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

February 17, 1992

Mr. David Bloom
Technical Services Co., Inc.
P.O. Box 653
Atkinson, IL 61235

Re: Visual Site Inspection
Technical Services Co. Inc.
ILD 000 646 828

Dear Mr. Bloom:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for February 20, at 9:00 a.m. The inspection team will consist of Peter McLaughlin and Alan Supple of Resource Applications, Inc., a contractor for the U.S. EPA. Representatives of the Illinois Environmental Protection Agency (IEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with the present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI. Attachment II is a summary of the information required.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,

Francene D. Harris for

Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

enclosure

cc: Larry Eastep, IEPA

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: MOTOR OILS REFINING
McCOOK RE-REFINERY

EPA I.D. NUMBER: ILD000646786

LOCATION CITY: McCOOK

STATE: ILLINOIS

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	YES	NO	
• Landfill		X	
• Surface Impoundment		X	
• Land Farm		X	
• Waste Pile		X	
• Incinerator-for process gases	X		
• Storage Tank (Above Ground)	X		
• Storage Tank (Underground)	X		for gasoline & caustic
• Container Storage Area	X		
• Injection Wells		X	
• Wastewater Treatment Units	X		
• Transfer Stations		X	
• Waste Recycling Operations	X		
• Waste Treatment, Detoxification		X	
• Other _____			

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

This facility is a used oil re-refinery that processes up to 20MM gallons/year of used oil with its off-gases being incinerated and its waste water being processed for discharge into a sanitary sewer system. It also has storage tanks for used oil. Used oil has been proposed for listing as a hazardous waste by the EPA on 11/29/85.

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

   Please provide the following information

   a. Date of release
   b. Type of waste released
   c. Quantity or volume of waste released
   d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

   1979 - Major dike break flooded plant and resulted in approximately 100,000-500,000 gallons of oil being released into plant. All oil contained in plant, treated and recovered in plant. Misc. - minor leaks of used oil, all oil recovered in plant and recycled.

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

   Spills consist of used lubricating oils

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Signature

8/17/86
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

July 5, 1994

Mr. Lowell Aughenbaugh, Environmental Manager
Enviropur Waste Refining and Technology, Inc.
7601 W. 47th Street
Mc Cook, IL 60525

Re: Visual Site Inspection
Enviropur Waste Refining and
Technology, Inc.
(Formerly Motor Oils
Refining Company)
McCook, IL
ILD 000 646 786

Dear Mr. Aughenbaugh:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment and a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) and to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are

necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for Thursday, July 14, 1994, at 9:00 a.m. The inspection team will consist of Mary Wojociechowski and Judy Wagner of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Illinois Environmental Protection Agency (IEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,

Francene D. Harris for

Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

Enclosure

cc: Larry Eastep, Manager, IEPA, Springfield
Cliff Gould, IEPA, Maywood

ATTACHMENT I

The definitions of solid waste management unit (SWMU) and area of concern (AOC) are as follows.

A SWMU is defined as any discernable unit where solid wastes have been placed at any time from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of a solid or hazardous waste.

The SWMU definition includes the following:

- RCRA regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that U.S. Environmental Protection Agency has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents, such as wood preservative treatment dripping areas, loading or unloading areas, or solvent washing areas

An AOC is defined as any area where a release to the environment of hazardous wastes or constituents has occurred or is suspected to have occurred on a nonroutine or nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

PRC requests that, if available, the following facility information be provided during the VSI:

1. Two copies of a detailed map of the facility
2. Facility history, including dates of operation, ownership changes, and production processes
3. Current facility operations
4. Processes that generate waste that is treated, stored, or disposed of at the facility
5. Records of disposal of wastes generated at the facility (manifests, annual reports, etc...)
6. Security at the facility
7. Information regarding geology and the uses of ground water and surface water in the area
8. Permits (air, NPDES, etc...) the facility currently holds or has held in the past and documentation of any permit violations that may have occurred
9. Records of any spills that may have occurred at the facility
10. Descriptive operational information (location, dimensions, capacity, materials of construction, etc...), dates of start-up and closure, wastes managed, release controls, and release history for each SWMU